HOW CAN TECHNOLOGY BE USED TO IMPROVE THE LEARNER EXPERIENCE AT POINTS OF TRANSITION?

REVIEW OF PEER REVIEWED ACADEMIC LITERATURE, NATIONAL AND INTERNATIONAL RESOURCES AND EXAMPLES OF PROJECTS AND INITIATIVES WITHIN HIGHER EDUCATION INSTITUTIONS LITERATURE

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EXECUTIVE SUMMARY

The themes from the literature can be summarized as follows:

1 **Pre-entry support and aiding early transition**

A number of projects and studies have employed technology to aid the process of transition into university by helping students to settle in and adjust, to reduce anxiety and deal with change. Initiatives involve online activities and resources and the opportunity to communicate with others prior to arrival, during induction and into the early stages of university life. Distance learning models of induction can provide guidance and work is often focused on helping students to feel prepared, ready and connected, managing their expectations and allowing skills development to begin.

2 **Social interaction and integration**

Using technology to support social integration and engagement is seen as a key benefit in improving transition experiences. Social Networking Sites in particular are highlighted for addressing homesickness and allowing new connections to be made – offering a sense of community and belonging. Other technology such as SMS, virtual environments and Instant Messaging (IM) are also noted for their ability to offer social ‘presence’ and reassurance that others are experiencing similar problems and challenges. The benefits of using technology to support interaction with students already at university, for peer mentoring and for communication with staff are also noted.

3 **Skills/academic development and ‘learning to learn’**

Various initiatives are using technology in transition for the development of skills, both for academic and study purposes and also for personal development, self-assessment and for ‘learning to learn’ at university. Reflection, motivation and autonomy are raised as positive attributes that technology can foster as is its ability to prepare students for life after graduation in terms of marketplace technologies and the 21st century skills required by employers.

4 **Information communication**

The practical benefits in allowing general resources, information, regulations and procedures to be readily available are often raised and this can be facilitated by VLEs, edublogs or other mobile technology such as Instant Messenger (IM) and SMS. Technology is being used to reach large numbers of students with course information, announcements, events and reminders and can help provide timely information at points during the transition process.

5 **Maintaining engagement and participation**

Studies discuss how technology and e-learning can aid ongoing participation and motivation over the transition through the academic cycle. Various e-tivities are
being used to enhance engagement by providing richer learning environments and innovative practice, flexible learning, ongoing peer collaboration and scaffolding support, as well as aiding the engagement and transitions of remote students

6  Inclusivity and increased student diversity

The need to utilise technology is often associated with increased student diversity, and notions of inclusion and widening participation are common, although not all accept technology has a big impact on this. Technology can be aimed specifically at non-traditional students and may be needed to support some with individual needs. Yet studies stress possible access issues, that all learner needs should be addressed and that universities should be mindful of the full range of diversity and consider the possibility of technology creating new barriers as well as offering help.

7  Student centred approaches

Aiming to be student centred in approaches to the use of technology is a common theme and key features of this revolve around offering flexibility of access, choice and an increased sense of control and empowerment over learning. Personalising experiences and valuing and utilizing the student voice are also seen as beneficial. As is putting the technology into learners’ hands, fostering student creativity and moving beyond passive learning. Technology is also seen as able to support ‘reluctant’ learners and as a tool for obtaining student feedback.

8  Connecting with student use of technology

A key feature of the literature is connecting with technologically aware and skilled students and appealing to and learning from the ‘net generation’. Studies argue that students use technology in their everyday lives and HEIs need to channel and respond to their skills and preferences in order to engage them. However, skills problems are raised by others, both around students not necessarily being able to use devices for educational purposes and in terms of cautioning against treating students as a homogenous, technically competent group who would all benefit from technology. Learners are diverse, have different abilities, styles and needs and all of these need to be taken into account when considering technology and transitions.

9  Alternative, additional and blended approaches

Initiatives can be seen as offering interesting alternatives in light of students’ lack of engagement in the traditional classroom, or as part of an approach used alongside face to face methods to support and enhance them. Provision for diverse learners means that blended approaches may be seen as preferable; however some authors urge the importance of realising the full possibilities of technology and its transformative potential. Technology is also being used alongside other practices and at various points throughout the student cycle as part of the transition process.

10  Identifying ‘at risk’ students and student support

The literature reveals potential for technology to highlight and support students seen to be ‘at risk’ during transition by identifying those who may be struggling and
providing an opportunity for timely information and interventions. The ability and potential of technology to aid all students is also noted – to troubleshoot issues, offer individual support and to provide cohesive and integrated support services.

11 Staff Involvement

There are mixed views on staff involvement with students via technology, with some suggesting staff use of, say, Social Networking Sites (SNS) can enhance communication and help draw students into learning; and others concerned about ‘invading’ student space. Perceptions of the changing role of staff to facilitators, rather than deliverers, of knowledge are also discussed, as are concerns over time, expectations and skills.

12 Potential problems/concerns

Studies raise but also aim to address some of the following perceived problems:

- Access and technical issues
- Low participation/engagement with technological initiatives – including why students may not participate and how this can be tackled by making the use of technology meaningful and relevant
- Privacy, safety and concerns over public postings
- Technology as disruptive and disengaging
- Encouraging dependency, spoon feeding and superficial learning

13 Impact and outcomes on transition/retention

Evaluations tend to note the potential technology has and its impact is often discussed in relation to the perceived benefits to the transitional process or in addressing key retention issues/factors. Authors note that outcomes are difficult to evidence due to being unable to isolate all the variables involved, but some impact is discussed and demonstrated in terms of access to resources, improved student skills or achievement and in relation to retention rates. These can be viewed alongside JISC’s (2008) ‘tangible benefits’ of e-learning and, although evaluation of many projects is still ongoing, the importance of both quantitative and qualitative information and benefits is noted.

14 Student Feedback

A number of studies are utilising student feedback to evaluate and develop projects involving the use of technology. Students have noted value in terms of communication, access to information and feeling more prepared, confident and positive. They also report advantages in social integration, flexibility and academic engagement, with one study tracking the perceptions and benefits of technology over the first year period. However, mixed, ambiguous and contradictory feelings towards
technology are also being uncovered, with negative views as well as positive to consider.

15 Wider issues to consider

Wider issues are also identified within the literature, which may be important to consider in terms of evaluating initiatives or for planning future developments or research:

• Institutional and strategic approaches
• Consistency
• Usability, design and purpose
• Data and evaluation issues
• Incorporating the student voice/perspective
• Further evidence needed
BACKGROUND

During the last 20 years, higher education has undergone radical and unprecedented change (Education Act, 1992; Dearing Report, 1997; Roberts Report, 2003; Leitch Report, 2006). Today’s learners enter with very different expectations and assumptions about their experience compared with previous cohorts. Increased student numbers have placed exceptional strain on a system not designed to deliver mass education (Rowley 2003). Scott (1995) calls this radical change “massification”.

The student body has become dramatically more heterogeneous (Toman et al 2005) with Universities needing to adapt quickly to ensure inclusive provision. The student body has fragmented, (Caldwell et al 2006) leading in some cases to disengagement. Reasons for this are varied, but include issues of alienation (Quinn et al 2005) and poor decision-making (STAR 2006; Yorke 1997). To assist students effectively, new strategies must be implemented to ensure effective transition.

One way of responding to these issues has been to provide online opportunities for students to engage in to assist with transition and retention activities. Many UK HEIs now provide some form of online induction ranging from setting up groups in Facebook, peer mentoring schemes in Bebo to institutionally owned and managed social networks (e.g. Anagnostopoulou & Parmer 2008; Currant & Keenan 2009). There are also examples of innovative uses of technology at points of transition e.g. using alternate reality games to support information skills development (Whitton 2009)

However, much of the feedback associated with the use of online systems is anecdotal. There was a need to identify studies which have undertaken rigorous evaluations of the impact of their systems. Conducting a literature review into this area has provided a body of evidence to help institutions considering this type of approach on any potential benefits and issues. This literature review is therefore intended to provide a snapshot of the types of activities that are taking place, the technologies that have been utilized and any associated implications and issues, and the results that have been obtained.
METHODOLOGY

The focus of the review is on peer reviewed academic literature, national and international resources and examples of projects and initiatives within Higher Education institutions. To begin with, educational databases were sourced for abstracts and articles – notably ERIC and HEERD. The initial search terms used produced too many general results and therefore these were refined, focusing specifically on: technology and transitions/retention; using technology to support transition/engagement/retention; online transitions; online inductions and social networking sites. In addition resources were sourced from the Higher Education Academy (hereafter ‘Academy’) website subject centre links, publications and Evidence Net and from relevant journals such as Brookes e-journal, ALT-J and the Journal of Computer Mediated Communications. Where searches uncovered links to further references or additional search avenues, these were followed up individually and further items included where relevant.

The searches identified a body of literature concerning the use of technology for teaching and learning within Higher Education and on e-learning practices. A number of resources were concerned with enhancing the learner environment and experience; such studies involved: supporting a technology enabled curriculum; the expansion of e-learning or moving to/implementing an online environment; transitions from face to face or traditional teaching; online course/module delivery; distance learning; staff and student attitudes to technology and the various advantages and disadvantages of these various processes and schemes. Where possible, relevant themes and areas related to transition have been drawn out from these. However it is important to emphasise that the review is not focused on the evaluation of e-learning or the effectiveness of technological initiatives per se; for example, it is not about the benefits or impacts of these in teaching and learning, how to use technology as a teaching tool or to enhance learning. Rather it centres on transition, its context and engagement during points of this process. Discussion, analysis and review of technology and e-learning for teaching, learning and assessment can be found elsewhere. Therefore this review focuses on projects or studies that demonstrate the use of technology in improving the learner experience during transition and the possible impact of such uses on retention and student experience issues. Inevitably, there was considerable crossover, and such materials have been incorporated. Examples of this included research concerning pre-arrival and induction initiatives and using technology for social integration, communication, skills development and continued engagement. Although there was less to be found on the specific use of technology for transitions and little in terms of demonstrable impact, there were a number of articles and reports that focused on this aspect and the sources themselves often both recognised and recommended the need for further research work in this area.

From the outset, the project acknowledged that finding initiatives and work in this field might also need to look towards the ‘grey literature’ and thus relevant conference papers and presentations were searched for via sites such as JISC, ALT and the Academy. In addition members of and practitioners within the higher
education community were asked for their input into the review. Requests for details of work in this area were forwarded to the JISCmail groups ‘Student Retention and Success’¹ and LDHEN², and to the ELESIG³ Ning community. Examples of activities/projects for consideration were listed as:

- Online induction initiatives (including pre-arrival)
- Online peer mentoring schemes
- Institutional use of social networking sites
- Innovative uses of technology at points of transition – e.g. for skills development

It was highlighted that the review was particularly interested in studies/initiatives that had undergone evaluation of their impact. This was in order to provide a body of evidence to help institutions considering this type of approach on any potential benefits and issues. Therefore examples of reports, conference papers and presentations were especially welcomed. The request included a proforma to focus responses to the topic areas but individuals were also able to forward general comments and/or links. This interaction yielded a number of useful resources which were included in the review alongside those found from more traditional sources. Although a number of initiatives taking place nationally are in the early stages or have yet to be evaluated and therefore cannot be considered in terms of meaningful impact, they do provide a flavour of the activity being undertaken, underpinning rationale and the anticipated benefits/outcomes on transitional experiences.

The involvement of the ELESIG community itself also adds a unique aspect to this review – members were asked for examples of studies and had the opportunity to comment on/add to the resources used via the online Ning community. In addition to receiving projects updates, a review draft and being asked for input, a full list of sourced references were stored in an Endnote Web database made available to members who requested access. This review has therefore been interactive in its development, both with the e-learning and technology communities and those interested in retention and student success.

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² http://www.jiscmail.ac.uk/ group LDHEN@JISCMAIL.AC.UK
³ http://elesig.ning.com/
OVERVIEW OF FINDINGS

Introduction

This review considers transition in a broad sense as beginning before entry to university and continuing through the first semester, year and beyond. The resources discussed offer examples of initiatives, activities and findings on the use of technology at various stages or points involved in transition: pre-entry and induction, early experiences, first year and later engagement and into employment. Projects often aim to improve experience at/during these stages by engaging learners and supporting their needs, and strive to address the factors influencing withdrawal, retention and successful transition that have come from wider research.

A number of the examples included are contextualised by transition literature and in particular the importance of both academic and social integration – with facilitation of these a common feature in the studies and projects. Cook and Rushton (2008) write that key dimensions of transition are independent learning, group work, motivation and responsibility and numerous initiatives aim to encourage students to develop in these areas and foster skills such as autonomy, critical thinking and self-directed learning. Resources have been used where technology is pivotal to a transition project or forms part of an overall approach. However, many others may not address transition directly but have been included to highlight where technology is being used for enhancing teaching and learning in general, to enhance learner experience or to assist retention, and therefore can be seen as potentially beneficial to aspects of transition. In a wider context technology is seen as playing a fundamental role in Higher Education, e-learning is strongly encouraged and key drivers for technology enhanced learning are seen as meeting student expectations and improving the quality of teaching and learning (UCISA 2008).

Throughout the literature, technology can be shown as being used in an attempt to improve the learner experience. This review outlines what some initiatives aim to achieve or address, how technology can be beneficial and why its use could be considered desirable.

The projects and studies involve a wide variety of initiatives and web tools, including:

- Social Networking Sites (SNS) – facebook, ning etc
- SMS
- Virtual Learning Environments (VLE)
- Gaming/Alternate Reality Games (ARGs)
- Online peer mentoring
Online modules/programmes
Online skills resources/development
Blogs
Wikis
Podcasts and vodcasts
Discussion forums and chatrooms
Video and audio clips
Folksonomies (tagging)
Personalised Learning Environment (PLE) e.g. Second Life
Web 3.0 technology

From these resources, a number of key themes and commonalities have been drawn out and discussed. These include: dealing with preparedness and anxiety reduction; social integration and peer interaction; academic skills development and early through to ongoing engagement (to maintain participation throughout transition); considering diversity and inclusion; being student centred and offering personalisation; connecting to students’ use of and skills with technology; using technology to identify and support students that may be ‘at risk’ during transition; using alternative and blended approaches to learner needs; issues concerning staff involvement in initiatives and possible problems and concerns with using technology.

Resources consider what has worked and how aspects of the technology have been effective, beneficial, or have made an impact. However, possible problems and concerns are also raised and the literature reveals some contrasting views on the use of technology. Even where benefits are found, potential difficulties and barriers can also arise. In particular, this can be caused by making generalisations or homogenising students, but it also reflects a number of other issues such as low participation rates in projects. Therefore there is a need to address diverse learner styles, needs and experiences and making the use of technology meaningful and relevant.

The review also includes sections on findings in terms of the impact of using technology, although some evaluations can be limited to the perceived success of the individual project rather than the wider impact of the scheme on, say, retention. Yet a number of examples of impact have been reported and JISC (2008) emphasise the importance of an e-learning approach and provide key “tangible benefits” such as: savings in staff time or resources; increased student achievement and improved student retention; benefits in skills and employment; and positives for inclusion and widening participation. All of these issues feature within the review across the themes. Both quantitative and qualitative feedback is considered important and the section on student feedback in particular can highlight the value of technological
initiatives on experience during transition, although this section also notes mixed views from students on their perceptions of technology.

The final section draws attention to wider issues for consideration in terms of using technology such as institutional approach, consistency, design and evaluation and highlights the need for further research in this area. It is clear from the resources that there are no magic tools which by themselves can solve all the problems students encounter during the transition process and the use of technology needs to be carefully considered in light of diverse students, with many urging the importance and centrality of the student voice. This perspective is highly valued and conclusions argue that initiatives to aid learners and improve their experience acknowledge and support all backgrounds, needs, preferences and transitions.
From the review, a number of themes and commonalities have been developed – from individual projects or initiatives, from studies into the use of technology and from the general literature in the field of technology and education, distance education and e-learning.

1 Pre-entry support and aiding early transition

A number of projects and studies have employed technology to aid the process of transition into university by helping students to settle in and adjust, to reduce anxiety, deal with change and develop generic skills (Laing et al 2005). The work is frequently justified by and aimed at addressing key transition issues and facilitating retention (Chalk et al n.d.) by enhancing the transition experience and offering support before study begins.

Initiatives in this area regularly involve online resources, activities and the opportunity to communicate with staff and other students prior to arrival, often from when students are offered/accept a place. But many also include activities extended into the early stages of university life. Examples include:

- Bridging the Gap at the University of Sunderland
- Step into Higher Education at the University of Manchester
- Stepping Stones 2HE at Bournemouth University
- Develop Me! at the University of Bradford
- GO! At the University of Brighton
- Getting Started at the University of Lincoln
- MAPS at the University of Leeds
- Shock Absorber at Manchester Metropolitan University
- Getting on Track at the University of Sydney

Key features of the schemes are to tackle issues such as lack of preparedness for higher education, improving confidence levels, easing the burden of induction week, avoiding information overload, demystifying jargon, and creating the opportunity for students to ask questions. They strive to engage students early and increase their confidence, knowledge and skills and alleviate the anxiety of starting university. Anagnostopoulou and Parmar (2008) suggest that using technology may assist in easing transition by linking students to support and managing expectations. A number projects focus in part on bringing expectations in line with the reality of academic study (Laing et al 2005) and to help students know what to expect, see
what university life will be like and to understand what it means to be a student (Hills 2006). Keenan (2009b) notes that offering information and resources before students arrive, in students' own space and time, spreads the load, helps them to absorb information, gain confidence and can help develop early commitment, engagement and perseverance. Students can find induction week overwhelming and therefore such ‘transition mechanisms’ (Keenan 2006) are important and access prior to induction – to other students, to the course and to the university – is seen as a key step towards providing a successful student transitional experience.

Another aspect of online transition support involves improving orientation activities. Several initiatives have used online games (Platt 2009, Whitton, 2009 and Curran and Forbes 2007) to tackle this by offering the chance to learn about and explore services and features of the university and surrounding area. A different example is a pre-induction package at the University of Salford, delivered via blackboard, which included welcome podcasts, pre-course reading materials, direct contact information for staff, maps and a helpline (Robinson et al. 2007). Another common feature amongst the literature is the provision of opportunities to meet other students online before arriving, experience social interaction, start to build a community and have access to pastoral support provision (Daly and Thomas 2008). Early formation of support networks and communities can allow students to share their fears with each other and aims to manage/reduce anxiety and offer reassurance (Hills 2006, Watling 2009).

Initiatives are also responding to the need to lengthen support beyond induction, such as the Extended Induction Strategy at Birmingham City University – which covers pre-entry, registration week and beyond. Here technology is again used for pre-arrival support via facebook for meeting others, pre-enrolment assignments and podcasts for early engagement with the course material and then use of Moodle to support learning beyond arrival. Wozniak et al (2009) provide an example of using technology based on the notion of transition from everyday life to academic study over time. ‘GettingOnTrack’ aims to address needs before, during and after enrolment via three stages: Get Real before enrolment for reflections, engagement and building skills, confidence and readiness; Get Started during enrolment including ‘how tos’; and Get Learning for post enrolment with online communication, activities and guides to support learning.

Some examples involving technology to support induction can also be drawn from distance or online programme’s inductions that have little opportunity for face to face support. Harrell’s (2008) work too stresses a focus on readiness, orientations and support and suggests induction should prepare students for participation and work, help them to develop realistic expectations and educate them about skills needed. Forrester et al (2005) also offer ‘START OUT’ as an example of an online induction model from distance learning and offer a good practice guide and checklist that considers the transitional aspects of induction. Many of the characteristics it involves can be seen mirrored in the goals of initiatives in non-distance courses such as Develop me! and Stepping Stones 2HE.
Not all studies involve comprehensive schemes or programmes for transition; some have looked at utilising particular technology across various areas, with easing the transition experience being one aspect. For example Chan and Lee (2005) used podcasts to address pre-conceptions and concerns and also found that podcasts used in distance learning reduced anxiety and isolation and gave a sense of inclusivity to students (Lee and Chan 2007). A number of initiatives are being used at the University of Leeds: Morris et al (2009) discuss the use of the VLE to improve the induction experience where students were encouraged to make posts with books being offered as prizes. ‘Countdown to University Studies’ uses short videos clips of welcomes from key staff – their research, what they teach and photo storyboards of field trips. Pugh (n.d.) also looks at the use of a Facebook group once places are confirmed which aims to build familiarity before arrival with new and current students and staff.

New technology is therefore being used in managing the process of transition beginning from the point of offer, through enrolment and induction and into the early stages of university life, all of which are seen to help students to make sense of their ‘new context’ (Kennan 2009a).

2 Social interaction and integration

Using technology to support social integration and engagement during transition, by using the VLE or, in particular, via social networking sites (SNS), is a recurring theme in the literature. Once students have arrived it allows them to keep in touch with friends and family at home and is therefore part of the ‘social glue’ (Madge et al 2009) that helps students settle in to university life. Additional studies have suggested the benefits of social networking sites in addressing ‘friendsickness’ (Ellison et al 2007 and Madge et al 2009) or homesickness (Eberhardt 2007) by supporting existing friendships and therefore helping to reduce anxiety and promote well-being by keeping in contact with those from home.

The use of such technology can also help to establish new relationships and a sense of connectedness and a commitment to a community (Horsmanshof, 2004). For example the use of facebook prior to registration can provide a way of making new friends especially with people in the same halls or on the same course and can take some of the work out of meeting others (Smailes et al. 2009). Several projects state the benefits of social networking in terms of offering a sense of belonging (Horsmanshof 2004, TAG at the University of Central Lancashire) and for providing opportunities for social engagement in informal and relaxed environments where, for example, students can share experiences and see that others are feeling the same as them (Eberhardt 2007). Such opportunities, it appears, can facilitate successful socialisation during transition (Robinson et al 2009) and similarly can build and maintain ‘social capital’ (Ellinson et al 2007).

Interestingly, Prior and Fitzgibbon (2009) discuss how, although social interaction is important to engagement with the university, the nature of this is changing and that students are not using traditional socialising events, activities and clubs etc or socialising at the SU bar. This was found not to be due to lack of time but rather lack
of interest and they speculate this could be due to increased social networking online. The implication of this is that universities need to meet and manage changing needs and habits. Trinder et al (2008) also recommend rethinking induction in relation to social networking and championing the socio-cultural benefits of a campus rich in this activity.

Other studies highlight how it is not just social networking sites that can offer social interaction. Harley et al (2007) consider the use of texting to support transition in terms of fostering social integration and noted that students were already using SMS with each other such as to check information and seek reassurance. The importance of offering a sense of each others ‘social presence’ is a common theme – helping to establish connectedness and community and again reducing anxiety as students were aware others were experiencing the same problems and challenges or were in the ‘same boat’ (Heaton-Shrestha et al 2009). Other technology can offer this too, such as twitter (Dunlap and Lowenthal 2009), a virtual classroom (Reushle and Loch 2008) or a virtual ‘lounge’ (Harrell 2008). Xie and Sharma (2005) also note that weblogs can aid building a sense of community with their personal tone creating a warm academic environment. Plus Kadirire (2007) and Little et al (2008) look at the use of ‘Instant Messaging’ (IM) and its importance in providing ‘presence’ – with students appreciating being aware if other users are logged on, that others are around, and being able to send messages in real time.

As well as initiatives that allow interaction and community development between prospective/new students, a number are aiming to link students with peers already at university. One example utilises the “hot knowledge” of other students via podcasts to enhance transition by capturing their informal and social knowledge (IMPALA4T at the University of Leicester). The use of peers is seen as particularly beneficial as other students trust them (Round, in Pugh n.d.). The University of Reading’s ‘Student Stories’ uses clips of current and past students talking about aspects of transition and others use the experience of second and third year students via networking sites. Little et al (2008) discuss BuddySpace at the Open University which offers peer-to-peer interaction and community building through Instant Messenger (IM) on a facebook-like site and the University of Glasgow’s ‘Student Network’ gives advice and guidance from current students via e-mentoring. Others discuss the benefits of using online peer mentoring (Hall 2009a on De Monfort University’s CoTIL project) and Smailes et al (2008) outline using the VLE, SNS and even Personal Learning Environments (PLE) such as Second Life for peer mentoring, with virtual mentors being used for student support with social, accommodation and academic issues. Also MAPS at the University of Leeds uses peer mentors in its facebook discussion groups as did another project at the university using level 2 students to interact with new students via the online discussion forum (Morris et al 2009).

Communication from staff is also intended to tie into this process, such as the ‘Student Messenger’ (Harley et al 2007) initiative to facilitate integration – with staff sending messages on organisational matters or general items like ‘happy new year’. It was reported that the students felt a sense of belonging from this and although messages were received en masse, were felt to be personal. Therefore using technology to offer the opportunity for making early contacts and to support social
interaction with peers and with staff is perceived to be a key benefit to transition, with technology able to offer additional and innovative ways of fostering this support and, in theory, making it easier for students to integrate and enhancing their experience of transition.

3 Skills/academic development and ‘learning to learn’

A number of projects suggest that it is not just the social aspects of transition that are important, but that initiatives also need to include academic tasks and/or those linked to disciplines (Oliver 2008). Therefore the development of skills and attributes form aspects of several pre-induction schemes (Currant and Keenan 2009) and online skills resources are being offered via a number of technological initiatives for:

- academic and writing skills (Cohen and Bobrowicz 2009 and the University of Hull’s Academic Writing)
- maths skills (Leeds Metropolitan University’s Virtual Maths – Dickenson et al. 2008)
- information literacy skills (Whitton 2009, Glass et al. 2006)
- critical thinking (Hills 2006, Burgess 2009)
- e-portfolios (Heath 2008)

Resources can address the development of course/discipline specific skills or knowledge and an understanding of expected study, which may include online assignments prior to arrival (Stepping Stones 2 HE, Wingate 2007, and ‘Countdown to University Studies’ at the University of Leeds – Pugh n.d.). Some initiatives offer an ‘academic tool box’ including mock lectures for experience of the classroom environment (Fishman and Decandia 2006) or ‘snapshots’ of academic practice (Watling 2009). Cohen and Bobrowicz (2009) discuss the use of an online ‘Assignment Survival Kit’ (ASK) – an essay planning and writing tool covering referencing, reading and note-making skills and time management. Information and resources usually continue to be available after the early stages of transition for further skills development, and for sharing advice; for example, the University of Leeds ESSL study skills pages.

Keenan (2008) discusses the role of Stepping Stones 2HE in Personal Development Planning (PDP) and subject engagement, starting from pre-induction with an ‘About You’ survey and going through to the first assignment. This aims to enhance self-awareness, reliance and reflection, so such activity becomes routine and just ‘something we do’. The ability of technology to facilitate independent learning and help students monitor their own development is a recurrent theme throughout several studies (Harley et al 2007, SaPRA at the University of Bradford) and a common feature of this is the testing or profiling of skills (TAG at the University of Central Lancashire, Develop Me! at the University of Bradford, Stepping into Higher
Education at the University of Manchester and Bell 2009). These are often in the form of self-assessment tools offering a ‘health check’ (University of Birmingham) to students, with self-diagnosis seen as able to empower students and help them develop a sense of ownership (Laing et al. 2005) over their learning. Early profiling is considered important (Stone 2009a) for transition support, particularly as it can help students in ‘learning to learn’ (Laing et al. 2005, Wingate 2007, TAG at University of Central Lancashire), learning how to ‘play the game’ (Currant and Keenan 2009) or ‘learning the system’ (Harley et al. 2007). Recording progress and development is also important and ‘Leeds for Life’ at the University of Leeds encourages students to keep a ‘live CV’ of their achievements and experiences.

Various work stresses the value of encouraging the skills to reflect on learning and experience (University of Reading’s CETL, Stepping Stones2 HE) and self-created content via new technologies is believed to help foster reflective skills (IMPALA4T at the University of Leicester) and the development of student identity (SPLASH at the University of Sussex). Xie and Sharma (2005) found weblogs and virtual environments beneficial for individual and reflective work and deeper learning – as students could track their own changes and see their growth in thinking. Marples discusses using the VLE at the University of Leeds for student quizzes to assess their own progress and obtain feedback on their standard of work and Armstrong et al. (2009) suggest comparing their work with others via podcasts gives students a useful insight into their own abilities and can inspire them. In addition, Prior and Fitzgibbon (2009) look at ‘Early Days’, an online tool to self-assess transition and orientation carried out in week 6 of the first term, and suggest that even the process of allowing students to put their feelings into their own words can be important. Such skills development, further enabled by the use of technology, is seen as valuable in terms of students understanding and recognising their skills, development and growth and therefore as potentially able to improve the transition process and impact upon retention.

In a similar vein, the importance of fostering motivation and confidence and developing skills such as autonomy and self-efficacy are raised by a number of studies. Stone (2009b), discussing the WOLF project, notes the possibility of using technology to provide tools for reflection and improve motivation and Shroff and Vogel (2009) consider intrinsic motivation – the readiness to engage in learning and achievement – and found that when comparing online and face to face discussions, online ones were preferable for perceived student choice and competence – both of which helped motivation, self-determination and autonomy. Wang and Fang (2005) also suggest weblogs can assist in developing learner autonomy, increasing self confidence and the ability to self-direct/manage learning. JISC (2007) also stress the value of e-learning in increasing learner autonomy and Bowers-Campbell (2008) looks at the benefits of facebook in developing social skills through increased interconnectedness with peers and staff and how this may be helpful in improving self-efficacy which can impact on motivation, persistence and therefore likelihood to succeed.

The literature also reveals how the use of technology can develop the ability for group work and peer collaboration and how online activities can foster other practical
skills required for the modern employment market. JISC (2009a and 2009b) stress the importance of developing 21st century employability skills such as communication, participation and networking (all high on the government agenda) and that employer demands for ‘soft skills’ like self-direction and teamwork can be facilitated by social web technologies. HEFCE (2009) also advocate that HEIs provide ‘higher-order’ skills such as evaluation and refection required for the ‘information economy’. This employability and marketability is highlighted in a number of studies. Armstrong et al. (2009) suggest podcasts can be used for critical analysis of information, technical and literacy skills and planning, and Logan Rich et al (2009) note how technology such as wikis can develop project management and organisation skills. Others believe weblogs help time management, cooperative learning and knowledge management - creating, judging and evaluating knowledge (Wang and Fang 2005 and Namwar and Rastgoo 2008). Finally, Sharpe et al (2009), looking at projects concerned with transitions, stress the need for students to develop not just information and learning skills but also the organisational skills to balance multiple demands – such as study, family and employment.

Considering the environment after university is a recurrent theme, with technology seen as offering an experience of multi-media applications and web awareness that can therefore prepare students for the digital world they will graduate into (JISC 2009a&b and Cann 2008). Technology can also offer more real life experience (such as the Virtual site at Leeds Metropolitan University – Dickenson et al. 2008) and 3D environments can be used to simulate real environments (Farrell et al 2007) or mobile technology can enable learning on the job (such as at Southampton Solent University as reported in JISC 2009b). Steele (2008) suggests time spent in the traditional classroom does not actually apply to the job market and that we need to mirror the world outside academia and prepare students for marketplace technologies. Therefore technology offers the chance to develop new skills and to gain experience of Internet tools that may be needed for employment or required by employers (Williams and Chinn 2009, Jowallah 2008, Reushle and Loch 2008). The implication here is that all these skills will be of benefit in the transition from university to employment/life after study.

4 Information communication

As well as using technology in transitional support for facilitating social and academic integration it can also be used to introduce general resources, policies and procedures. Practical benefits in terms of information communication using technology are raised by several projects and Cook and Rushton (2008) note that part of an effective induction is providing information about administrative policies, course and institutional information. For example online resources can offer generic information on registration and accommodation (‘Countdown to University Studies’), and provide a repository for documents (University of Birmingham); Step into Higher Education (Chalk et al n.d.) presents information on the course, the city and for study, and aims to offer accessible and consistent resources– a ‘one stop shop’ for information and keeping in touch with admin staff. Similarly MAPS at the University of Leeds attempts to provide an all-encompassing resource of information for new
students and to reduce the feeling of ‘overload’ (Pugh and Taylor n.d.). Mitchell et al (n.d.) looked at the use of an online package including library and plagiarism tutorials and an e-tutor to help students use WebCT and a number of projects are using the VLE to host frequently asked question banks (Getting Started at University of Lincoln, Robinson et al 2007) or glossaries and gateways to other resources (Bell 2009). In addition, Akbulut and Kiyici (2007) raise the benefits of ‘Edublogs’ in providing information on relevant topics, news updates and archive information which are accommodating of busy lifestyles and are more readily available than paper copies and again can prevent information overload as students can search for relevant titles and brief summaries. Such initiatives are also beneficial after the early stages of transition; Laing et al’s (2005) Spiral programme runs during the first 6 weeks of the course but also extends beyond this to provide timely information over the transition process, such as for assessment regulations, plagiarism, mitigating circumstances procedures, report writing and referencing.

As well as online information, SMS is being used by staff for communication, for example in the Mobiles Enhancing Learning and Support (MeLAS) project at the University of Wolverhampton, which recommended its use for administrative purposes such as cancelled lectures, room changes and assessment deadlines (Brett 2008). Jones et al (2009) also consider the use of SMS messaging, noting that students paid more attention to SMS than email, thus making it more effective in communicating information that was read on time. Salas and Alexander (2008) note that student service professionals are using IM and can ‘chat’ with several students at one time and therefore technology is being utilised to reach large numbers of students with course information, regulations, announcements, events or reminders. It can also be deployed at critical points during the transition process (Nix et al 2006) such as before assignment deadlines or after the Christmas break. This provision of timely information is seen as particularly important (Whittaker 2008) - from pre-entry to induction and beyond, with technology being used to provide students with relevant information when they need it and in accessible forms.

5 Maintaining engagement and participation

The literature revealed many studies discussing the use of technology to engage learners and although not specifically focusing on transition, some examples are nonetheless relevant to longer term transitions over the academic year or cycle. This section will not focus on the evaluation of e-learning practices and methods, but has drawn on studies involving technology that aim to keep student interest and engagement going throughout university, considering how it can be used to motivate and sustain learning (Cann 2008). Using technology can be seen to have benefits not just for initial social and academic integration but, by enabling this to continue, to help participation and success and to build on development in early transition.

Web 2.0 technology is seen as being suited to encouraging engagement by providing richer learning environments and flexibility (JISC 2009a, Williams and Chinn 2009), something that HEFCE encourages, with a stated interest in innovation in e-learning and the design of technology for students to manage individual and shared learning
Studies highlight a whole host of e-learning initiatives involving online environments and various ‘e-tivities’ (Jones and Peachey 2005 and Slevin 2008) that are used to foster collaboration and control and to support ongoing engagement and participation.

Some examples from the literature include:

• using classroom response systems such as EVS, iClicker and Qwizdom to increase interaction in lectures (Draper and Brown 2004 and Salas and Alexander 2008)
• web-conferencing such as Elluminate (McBrien et al. 2009 and Reushle and Loch 2008)
• e-based PDP (Hefce 2005)
• e-assessment initiatives and ‘just-in time’ assessment (Hefce 2009)
• online continuous assessment to help students stay involved with a module (Ni Bheachain 2005)
• wikis and blogs to help students retain information longer and allowing students to learn from delivering to real audiences (Steele 2008)
• iTunes for class podcasts (Salas and Alexander 2008)
• technology to support problem based learning (Juwah 2002) – including discussion tools, mind mapping and knowledge forum software

JISC (2009b) also report the benefits of technology in problem based learning as students can learn from their mistakes quickly; similarly, in sites such as Second Life they can investigate solutions, test out hypotheses and reflect on their choices. de Byl and Taylor (2007) urge going beyond web 2.0 to using Web3D to provide a richer learning experience and learner controlled environment where learners can negotiate meaning based on their own experiences and direct their own learning – such as online collaboration with others as themselves or as an avatar. Collaboration and control appear as key themes in the literature on engagement, with technology being seen as being able to facilitate and foster these effectively, and potentially, being able to spark activity and motivation and further develop skills and confidence. One point of interest from the literature is that the use of new technology itself can be seen as motivating in that students acknowledged the need to develop the skills involved (Anagnostopoulou et al. 2008 and Wang and Fang 2005). They saw it as an exciting, new and attractive experience (Xie and Sharma 2005 and Edirisinha et al 2007).

Several examples of using technology to engage students come from distance learning and particular benefits and potential here are seen to be the flexibility offered, as students can learn/progress at their own pace and on devices that they are used to having with them (Yousuf 2007). Lee and Chan (2007) found students listened to podcasts on the move and linked them to other devices such as iPods,
PDAs and MP3 players. These were used to access re-caps, tips and progress checks in their own time. This flexibility is seen as of benefit to revision (JISC 2009b and Parson et al. 2009) and in preparing for and engaging learners on the move and at the point of need. Rismark et al (2007) looked at students using mobile phones to prepare for lectures and noted that although preparation may have been last minute this was better than no preparation at all, and conclude that such opportunities with technology may have improved participation. Edirisingha et al (2007) look at podcasts which talk through tasks and allow students to revisit materials – arguing that they stimulate interest and motivation and help students to stay focused. There is a notion amongst the literature here of ‘just in time’ learning (Juwah 2002, JISC 2009b) – access at the point of need, offering students more informal and engaging ways of learning which are ‘relaxing’ and where ‘learning just happens’ (Edirisingha et al 2007).

A number of studies consider the continued importance of student interaction beyond the early stages – not just to make friends or settle in, but for learning, developing group work and collaborative skills and for facilitating engagement. Virtual environments can be seen to have similar benefits to social networking sites and can continue discussion, collaboration and community, sustain motivation and participation, offer a safe and supported environment for exchange and promote taking an active role in learning (Jones and Peachey 2005 and Ng 2007). Miller (2009) asserts that students naturally want to socialise and that it keeps them engaged and satisfied. Logan Rich et al. (2009) also found that wikis and IM promoted peer interaction and facilitated the sharing and distribution of knowledge, as students worked together – noting that students liked discussion more than lectures and felt it helped them to learn. In addition, Walton (2009) looks at using social networking and online collaborative learning to get students to evaluate each other’s work by posting comments and feedback; this is seen to promote active engagement as well as deep learning. Finally, Bowers-Campbell (2008) notes how SNS themselves can offer acceptance by being less formal and intimidating and able to provide positive affirmation between students, such as by posting gifts. In this sense the class is seen to continue outside of lessons and creates a group of learners who care about each others’ success and feel responsible for their learning.

The concept of scaffolding to support and engage learners is also raised in research (Juwah 2002 and Watling 2009), as is how technology can play a role in this process. The University of Central Lancashire’s online community based support project aims to provide a scaffold of tailored e-resources within an academic online social networking framework. Bowers-Campbell (2008) suggests adopting practices that hold promise for scaffolding student success, and stresses the need to engage students in order to scaffold their potential. Stone (2004) looks at ‘mobile scaffolding’, reporting that research at Kingston University has identified that first year students desire support in managing their time and activities in both physical and virtual space. SMS text messaging was used to support these needs and guide students towards independent self-management and to create a personal mobile support context for learning and acting.
An additional benefit raised is the use of technology for remote students such as those on placement or fieldwork, with flexibility of e-portfolios, podcasting, virtual chat and blogging seen to be of benefit here in supporting students (Wilford et al. 2009). Similarly the Mobilising Remote Student Engagement (MoRSE) project at Kingston University used technology for collaboration and reflection and noted its potential on the transition of students returning from placement by using blackboard to anchor them back to university life (Linsey et al. 2009).

Technology and e-learning then is seen as providing benefits to the experience of transition throughout the learning process by enhancing engagement and participation through richer learning environments and innovative practice, furthering skills development, providing flexible learning and control, supporting ongoing peer collaboration and scaffolding support, as well as aiding the engagement and transitions of remote students.

6 Inclusivity and increased student diversity

The need to utilise technology in points of transition is often justified at least in part by increased diversity – of students, modes of study, experience and needs. Technology is seen as not just able to attract new audiences, but the flexibility it offers can widen participation to overseas students, those who need to fit study around work (especially adults, Hewitt-Taylor 2003), work-based learning students, ‘non traditional’ students as defined in the UK government’s widening participation targets and can foster lifelong learning (JISC 2009a). Notions of inclusion are common amongst the studies, with technology being seen as having the potential for furthering online and distance provision and thereby offering inclusion to those who wouldn’t normally come to university (Kadirire 2007, Ferrell et al. 2007). Similarly the National Student Forum report (2009) notes that the benefits of technology enhanced learning are increased flexibility in learning and increased access (for off campus and part-time students) and HEFCE (2005) report that e-learning strategies can meet the greater diversity of student needs and increase the flexibility of provision.

It is worth noting though that some authors have raised potential problems with this approach. Selwyn et al (2004), discussing access to university, challenge notions of using technology to support widening participation and suggest individuals already have a pattern of learning which influences engagement in education and suggest ICT is not necessarily impacting significantly on equality; but rather that age, gender, class, and educational background have a bigger impact. In addition, Slevin (2008) suggests the use of technology has wider implications on marginalisation and exclusion, not just in terms of local access and diverse learners but in terms of responsibility in a global context - noting that much of the world is excluded access to technology.

In terms of transition activity, authors do refer to a changing student demographic and widening participation issues, with studies highlighting that a ‘one size fits all’ approach is no longer adequate (Laing et al 2005, Currant et al 2008). Some projects are specifically aimed at non-traditional students (e.g. PASSPORT to Higher Education – Daly and Thomas 2008) or at providing new routes such as Foundation
degrees (e.g. UsPaCe at the University of Plymouth – McDermott and Witt 2009; and Step Into Higher Education Higher Education at the University of Manchester).

However, in Step into Higher Education, Chalk et al (n.d.) reported the scheme was for students deemed to be more ‘at risk’ in relation to retention, but noted that these students were similar to other students, implying its potential for a wider audience. Wingate (2007) also stresses that it is not just non-traditional students that are potentially unprepared for university, lack understanding of what the experience involves and need support during transition. Therefore, what may initially be aimed at supporting non-traditional students and/or increased diversity, can be seen to have wider benefits. HEFCE (2009) suggest that institutions consider learner entitlement in the context of access and flexibility but also be aware that all students should be able to benefit from what they provide (2009).

Pre-entry programmes often aim to address the needs of all students and some stress valuing, accommodating and taking into account a wide range of pre-HE experience and treating students as individuals (Keenan 2006, 2009a and Hilsdon 2009). However, other studies highlight how technology can be of particular help to disabled students or in supporting students with special needs (Ferrell et al 2007). Hardy et al (2009) offer good examples of disabled students using audio technology, such as iPods to listen to lectures, and mature students doing the same on long commutes to and from university. In addition, Sharpe et al (2009) note that access to electronic resources is essential for some learners with disabilities who need personalised materials to participate – adding that learners who are used to having to use technology for learning can actually stand out in such circumstances as adept users who understand the functional benefits of the technology.

Inclusivity also appears in relation to practical issues of access and the ability to use technology, which can be enabling in terms of autonomy and engagement, but also constraining if students lack the skills required to use it (Slevin 2008). Further details of learner types and skills will be discussed in a later section. Selwyn et al (2004) argue technology should not be seen as a single variable that can be used to deal with non-participation and it should not detract from non-technological necessities of providing inclusive education. Therefore, although many studies reveal the potential of technology for increased transition support, universities should be mindful of the wide range of student diversity, the purpose and benefit of technological initiatives and the risk of making new barriers versus the potential to help (Oliver 2008).

Various works assert the importance of understanding that there is no single student experience but rather a multiplicity of experiences that can evolve and change, and that learners’ relationship with technology also changes over time (Sharpe et al 2009).

## 7 Student centred approaches

Several authors stress their intention to be student centred in their approach to transition. Technology has the potential to help people understand and respond to students’ needs better and offer a more personalised experience (McDermott and Witt 2009 and Hall 2009a), especially in light of increased student numbers and
mass higher education (Harvey et al 2006). Initiatives are seen as being user centred and therefore able to enhance a sense of empowerment by being flexible, personalised and focused on students generating knowledge and valuing their voice.

The flexibility technology offers is viewed as enabling students to study according to their preferred way, in their own time and therefore offers a sense of ownership and control (Heaton-Shrestha et al. 2009). The benefits are often noted in work looking at mobile learning, such as the University of Leicester’s IMPALA4T project, which highlighted this as being able to further enhance student centred-ness. Yousuf (2007) notes that mobile devices are being used to listen to lectures, store and transfer data, are cheap and easy for students to use and can be interfaced with other technology. Chan and Lee’s work on podcasting (2005) argues that students are most likely to access bite sized, quick and relevant information in their ‘deadtime’. Others too note the benefits of students being able to use and revist resources in their own space and ‘down time’ (Edirisingha et al 2007, JISC 2007). McConatha et al (2008) considered the use of m-learning to prepare for exams and reported that students enjoyed the ability to pause and segment lectures, absorb them in their own time and that in this sense m-learning is seen to liberate – providing students with a choice of when and where to access resources and learning.

This anytime, anywhere learning links to the concept of providing personalised learning (Rismark et al 2007) and to studies that view technology as able to offer control and autonomy to students by putting tools into their hands. HEFCE (2009) report that technology can allow access to personalised services provided by the institution but also advocate the use of personal tools to suit individual needs. For example Ravenscroft et al (2009) discuss digital dialogue games for inclusive and personalised learning – especially if in contexts common to students such as via their mobile devices and Shroff and Vogel (2009) suggest online resources are perceived as offering more choice and that students match these to their personal preferences and use them to support their individual learning goals.

Including and championing the student voice is also a key part of personalisation. SPLASH at the University of Sussex, for example, strives to personalise learning using student blogs and personal homepages which students customise. Xie and Sharma (2005) suggest weblogs also allow personalisation and customization and Raths (2009) too notes the value of personalizing the experience – for example the “myGettysburg” part of the Gettysburg College site where students open their own account in order to receive personalized messages and items of interest such as extra curricula information. Attempting to offer more student orientated resources is also a feature of some projects, such as TAG at the University of Central Lancashire, which provides an alternative guide for students that aims to be different from typical ‘marketing’ approaches; similarly, the University of Leicester’s IMPALA4T and ‘Student Stories’ at the University of Reading are providing information using the knowledge of students already at university, who are seen as equals, as opposed to ‘cold’ faculty/university messages.

The literature therefore suggests valuing student expertise and awareness and making use of their knowledge and experience. Edirisingha et al (2007) note that
student produced podcasts allow students to learn from their peers and Beetham et al. (2008) even suggest rewarding the expertise that digitally proficient students can bring to others. Several studies refer to students as ‘experts’ (Armstrong et al. 2009, Bowers-Campbell 2008 and Juwah 2002) whose knowledge can be utilized and again suggest that placing technology in student hands is truly student centred and empowering. These approaches emphasise the value of students learning through creating, not just from receiving; they value the use of technology such as podcasts and weblogs as an outlet for the student voice and to express creativity (Armstrong et al. 2009, Miller 2009, Akbulut and Kiyici 2007). This literature highlights the possibility this raises in moving beyond passive learning – to not just delivering direct instruction but offering learner centred (Slevin 2008) knowledge and practice. Namwar and Rastgoo (2008) note that knowledge made by students, not transmitted by tutors, empowers the individual voice and brings learning into everyday life – stressing that power lies not with the technological tools but those who use them. Cann (2008) goes further to suggest that staff need to let go of their grip on technologies and utilise the power of web 2.0 technology by allowing users to generate and disseminate content – proposing that using Personalised Learning Environments (PLEs) would further this.

Other aspects of student-centredness found in the literature relate to addressing learning styles and how technology can potentially engage/benefit students less willing to, or comfortable with, engaging, including those seen as ‘reluctant’ learners (Schroeder and Greenbowe 2009 and Kadirire 2007). Technology such as SNS and podcasts are felt to make some learning seem less formal or intimidating and more friendly (Edirisingha et al 2007) and Shroff and Vogel (2009) felt students participated more online as inhibitions were removed and they could get their whole point across in discussions. Similarly, McBrien et al. (2009) suggest virtual technology can allow students to speak without being exploited and takes the pressure off giving opinions as students can make comments without feeling awkward, shy or judged. Again the potential of PLEs is raised, implying that interaction in these environments could remove discrimination issues (Smailes et al 2008).

Less common, but still interesting to note is using the technology itself to obtain student feedback and thus incorporate the student voice into evaluation and planning. Traxler and Riordan (2003) examined using SMS text questions for gathering student feedback and Wames and Warman (2008) discuss using online evaluation tools such as E-valU8 at the University of Central Lancashire which allows students to evaluate their learning, understand how their view is valued and offer collaborative action planning. Munro (2006) too considers ‘e-feedback’ as a continuous process, able to ‘monitor the pulse’ of engagement and potentially reduce the possibility of issues festering. Therefore attempting to place the student centrally can be viewed as enhancing the learner experience through transition by offering flexibility, personalisation and the chance to be creators of knowledge. Plus, by championing the student voice learners can feel in control of their learning, feel empowered and believe that their views are being listened to.

8 Connecting with student use of technology
A key idea in much of the literature is that students are using web 2.0 technology, so for universities to use this technology too is seen as positioning the student centrally. Approaches focus on modern students and their use of technology, with authors stressing that we now face increasingly technologically aware students (Wilson and Butterfield 2009) who want and expect to use their own devices in institutions (HEFCE 2009). Steele (2008) asserts that tutors need to understand how to teach students who do not learn as they once did and have grown up with high intensity stimuli such as games, downloads, iPods, blogs, websites, texts and who often have to ‘power down’ for class. Therefore much of the literature focuses on this existing use of technology as part of students’ everyday life/activities and advocate connecting with this, embracing it and bringing it into the classroom (Anagnostopoulou and Parmar 2009, McNeill, Harley et al 2007, SPLASH at the University of Sussex, Miller 2009). As students are already using social networking sites, the mobile devices to access them and conducting their lives via text, projects aim to build on what students are familiar with – both in terms of the environments/packages and the skills they have to use them (McDermott and Witt 2009). Studies urge learning from these ‘digital natives’ (Trinder et al. 2008), tapping into the ‘game generation’ (Curran and Forbes 2007), or offering meaningful learning to the ‘net generation’ (Williams and Chinn 2009). They stress the need to harness and channel the skills of contemporary students, to understand and respond to their experiences (Munro 2006).

The notion that technology can weave into students’ everyday life means using it in the initial stages of transition is seen as useful in terms of offering familiarity. But also as it can give an institution a presence in a large networking world and inspire students about their university and faculty (Countdown to University Studies at the University of Leeds – Pugh n.d.) and can even give it the ‘cool’ factor (Raths 2009). Technology is also seen as appropriate for ‘today’s’ students who have different styles and expectations and who process information differently – such as preferring interactivity and immediacy (Williams and Chinn 2009) and who are using mobiles, IM and SMS more than (say) ‘traditional’ email (Kadirire 2007 and Hardy et al. 2009). Similarly some suggest students prefer using their own choice of technology that links with their extra-curricular activities and peers (Dempster et al. 2007), arguing that students are using these technologies whether staff like it or not (Cann 2008) and so institutions cannot ignore technology such as SNS if they want to engage these students and make meaningful connections (Bowers-Campbell 2008).

However, literature also reveals that there are considerable skills issues to address. JISC (2009a) state that we may live in a digital age but that a ‘digital divide’ still exists in terms of access and engagement with technology and individual ability. This divide may be narrowing but it is still there (Hardy et al. 2009) and the National Student Forum notes that there is a ‘skills gap’ where certain groups of students, such as mature students or those from poorer backgrounds, may not have had the same access to technology or be as familiar with its language, and may consequently feel intimidated or lacking in confidence when confronted with the need to use it. Selwyn et al. (2004) argue that the option of ICT does not necessarily alter motivation or disposition. Anderson (2007) too, looking at self-produced knowledge, notes some argue it makes learning more compelling but ‘techno-centric’ assumptions can hide
that many don’t have the motivation to engage and that technology may even remove initial attraction. McDermott and Witt (2009) found that their assumptions of a skilled ‘Google generation’ did not readily apply with the students involved in their UsPaCe project, but that involving them in the design process from an early stage was effective in helping users understand the use of the proposed tools. Students therefore don’t necessarily have the assumed skills and institutions need to ensure access, provide skills development and support learners as they start to use technology and learn online (Sharpe and Benfield 2005 and Anagnostopoulou et al. 2008).

Other work stresses that even if students are using technology regularly, they are doing so to suit their own purposes, not necessarily those of the university. Students do not automatically know how to use technology in an academic way and need to be taught how to engage with it appropriately in an educational setting (Brown 2007 and Sharpe et al. 2009). Wozniak et al. (2009) interestingly consider transitioning between personal lives and academic study and how this is being blurred as the same technology is used in both. They suggest students face a threshold that is mediated by technology common to both contexts which can both enable the transition process but simultaneously introduce its own barriers. Students may show high levels of use of social networking, chat and messaging but not all are ready to adapt internet tools to broader situations like university learning. Tutors can perceive students to be more competent than they actually are and in fact many only use limited features or basic functions of their gadgets; they may not see their potential as a learning device or may be reluctant to explore such capabilities (Hardy et al. 2009 and Beetham et al. 2008). It has been noted that students may appreciate laptops and WebCT but that many do not understand the term e-learning and have a lack of familiarity with some web 2.0 technologies – such as listening to podcasts, contributing to wikis, sharing bookmarks (Edirisingha et al 2007) and using technology to be creators of knowledge (Akbulut and Kiyici 2007). Therefore students need support and guidance from staff (Sharpe et al. 2009) and need to be encouraged or persuaded to think differently about how to use these tools for education.

Not only do a number of studies stress that students are not necessarily as computer savvy or technologically sophisticated as believed, but also that there are many types of learner and styles of learning (Stone 2009a and Howe et al 2009) and different preferences and needs. The literature draws attention to the dangers of assuming all students are young and part of the ‘net generation’, and cautions against over-generalising or treating them as a homogenous group, a position which is incompatible with notions of growing diversity (such as growing numbers of international and mature students). Hardy et al (2009) argue that students are complex and assumptions cannot be made about their abilities and preferences, and moreover that skills do not belong to a set generation. Instead, students learn from each other and will use technology if it useful and if there is a need. They also suggest that attitudes can depend on previous experiences (say, at school) and that students have a personal comfort zone and find and use technology to suit their learning and to support their preferences.
The application and benefits of technology appear to be diverse then, and reflective of individual differences in abilities, attitudes and personal contexts. For example, Jones et al. (2009) write that the use and experience of SMS is not uniform and that some may benefit more than others from communication via this medium. Heaton-Shrestha et al. (2007) note that various learning styles and approaches will affect the use of VLEs and Ni Bheachain (2005) suggests the flexibility of e-learning works well for those that are motivated, organised and self-directed but is less effective for those who need more support and consequently doesn’t affect all students in the same ways. Some students dislike online initiatives, can lack IT or English skills, or have outside pressures that can affect performance or engagement with technology; and for some, learning difficulties could be compounded by moving online (Hughes 2007). As well as a possible ‘digital divide’ in terms of access and skills, there are also potential ‘digital inequalities’ around issues of inclusivity, so practitioners considering using technology need to be careful not to alienate some students or increase widening participation disadvantages.

To summarise, the idea that institutions should adopt technology to support transitions because it reflects what students are using in other parts of their life turns out not to be as simple or obvious a belief as it may seem. There is no homogenous ‘student’ or ‘student experience’, but rather a variety of learners, preferences and needs. Therefore a ‘one size fits all’ model that focuses on ‘traditional’ students or learning cannot simply be replaced with a new, albeit alternative, ‘one size fits all’ model that assumes all students use, value and benefit from new technology. Currant et al (2008) assert that students have diverse expectations and experiences of technology and that we cannot make assumptions about what they want from and do with technology. They propose four types of learner each with their own profile and requiring personalised support (first addressed in pre-induction). Similarly McShannon (2001) discusses four types of interaction for learning styles and urges that we need to be aware of these and create opportunities for diverse students and preferences. JISC (2009a) stresses that the online lifestyles of young people are inescapable and that there has been a definite change in pre-entry experience. They argue that it is therefore important that institutions appeal to and harness this, and indeed consider students who prefer a participatory approach and who have grown up with digital technology. However, it is also crucial to take into account those who have not grown up in this way, or who prefer more traditional methods. Studies suggest the need to balance the advantages and disadvantages of technology (Xie and Sharma 2005). Although initiatives need to capitalise on the current use of technology, this should not be at the expense of those who do not (Minocha 2009 and Currant et al. 2008).

9 Alternative, additional and blended approaches

With these views in mind, across the literature initiatives can be seen as part of a system/approach – one aspect of supporting transition and enhancing the learning experience. For example online gaming was used as an interesting alternative (Whitton 2009, Piatt 2009 and Curran and Forbes 2007) to induction and was not designed to wholly replace face-to-face activities. ‘Traditional’ induction may be seen
as ineffective and lacking, passive and limited (Laing et al 2005), therefore using technology can provide a different way for students to engage in and enjoy induction or to be introduced to skills development. Authors also suggest that students are reluctant to attend classes, lectures and tests; that they prefer active learning, skip classes or don’t engage when they do come; and are increasingly choosing not to attend on-campus activities (Miller 2008, Steele 2008, Harvey et al 2006 and de Byl and Taylor 2007). Therefore certain technologies can offer different ways to stimulate learning (Chan and Lee 2005). McBrien et al (2009) note that students felt their virtual experience gave them a break from the traditional classroom experience and an opportunity to learn in different ways.

Using technology to enhance engagement and participation has been discussed in more detail in a previous section, yet other work has considered the importance of combining and balancing these newer technologies and methods with more traditional approaches to ensure support and provision that is appropriate for diverse learners. The National Student Forum report (2009) recommends using new technology to enhance traditional methods and several studies suggest technology should be used alongside traditional or face to face learning (Namwar and Rastagoo 2008 and Heaton-Shrestha et al 2009), to complement it (Rismark et al 2007), offer something different or to enrich the resources available (Edirisingha et al 2007). For example, Ng (2007) describes Interwise – online tutorials, video, chat, slides and iMeetings in distance learning as a supplement to face to face learning that can further meet students’ needs and enhance their study.

Here, notions of blended learning or in this case, blended approaches to support/provision, are seen as preferable. Hardy et al. (2009) reported that students value tried and tested teaching methods, wanted face to face interaction and saw the use of technology as being to support this. Simiarly, Raths (2009) suggests letting students decide what to use, for example offering IM/blogs but also the choice to go and see a tutor in person. Authors recognise that online and face to face approaches can be seen to have advantages and disadvantages and suggest the value of a combination or mix of the two modes so as to balance teaching and learning for different kinds of students (Ng 2007 and Jowallah 2008). Interestingly, Howe et al (2009) evaluated e-learning at the University of Northampton and found student views revealed ‘darklight moments’ concerning the overuse of technology – which could be seen as a barrier (rather than an enabler, as had been presumed). They found that it was not valued as a replacement for face to face learning. This information was used to reflect on balance and bring blended learning into their programmes.

However, an additional theme relating to the use of technology comes from those that argue for more progressive and dynamic use of technology, suggesting that it should not just replicate or supplement face to face activities, or be just an electronic/online version of traditional methods. McCracken (2009) argues for a re- vision, not re-design, of approaches; something more than just a ‘web-inizing’ of existing services. Similarly de Byl and Taylor (2007) urge moving beyond a re- creation of the classroom via 3D environments and virtual reality to approaches that facilitate learner centred collaborative experiences. Slevin (2008) too notes that VLEs
can tend to just mirror the traditional classroom or are simply used to store materials and stresses technology should not just be a simple alternative means of distribution but offer different forms of action and interaction. Some argue that mobile technologies are likely to be most effective when their transformative potential is acknowledged rather than being seen as a substitute or enhancement of current practice (Williams 2009) and therefore that web 2.0 needs to realise its full potential by offering something new (Akbulut and Kiyici 2007). With some authors believing it has the potential to provide a new breed of learning technology (Edirisingha et al 2007), ‘new metaphors’ of learning based on collaboration (Ni Bhéachain 2005) or a new discourse, with tools seen as supporting students in integrating academic topics into their lives (Steele 2008). None of these are strictly focused upon using technology in transition yet it seems that initiatives in this area are striving to offer something different, beyond the scope of traditional inductions – such as pre-entry provision and preparation, valuing students’ knowledge and their use of technology. Such approaches may offer more learner collaboration and control over teaching as well as student-centred initiatives to empower and engage students.

The literature therefore shows mixed perceptions of blended approaches. Consequently it is important that methods are properly integrated – not just situated awkwardly on top of or next to each other (Wozniak et al. 2009). The use of technology to improve learner experience is not just viewed as supplementary, but can be seen as complementary to other activity and able to connect and link provision. In the case of prior induction initiatives, it may be seen as the start of a process of interaction, to be followed up and reinforced with face to face interaction (Robinson et al 2009). Technologically facilitated interaction between students and the university is seen as additional to classroom activity and can work towards improving relationships between students, educators and resources (Griffith and Liyanage 2008). Studies also discuss the benefits of linking or bridging formal and informal learning (Trinder et al 2008) and how web tools can fuse or connect informal work with formal (Hall 2009b). Anagnostopoulou and Parmar (2008) recommend linking the physical and the virtual, Daly and Thomas (2008) suggest that the formal complemented by informal can ‘loosen’ learning and the importance of blended learning approaches is indicated across various projects. In light of the previous discussion of different learners, styles, needs and preferences, a blended approach towards using technology in the transition experience offers further benefits for supporting diversity and inclusivity.

The evidence suggests that technology can work well alongside other practices throughout the transition process. For example, KUBE at Kingston University aims to use mobile technology to enrich learning and teaching and address the lifestyle and vocational needs of students. This initiative shows how technology is used across aspects of the transitional process such as diagnostic testing, improving attendance, use of technology in the classroom, provision of information on progression, supporting group work and providing frequent and relevant learner support. It maps where technology is used in each of these areas – such as podcasts, quizzes, wikis, blogs, discussion boards, individual learning plans, e-portfolios, streaming video, SMS and online peer observation. Similarly KRADLE at Kingston college shows how technology is used through the student lifecycle and offers a comprehensive model of
transition from pre-enrolment to exit and beyond, highlighting the supportive use of technology throughout.

## 10 Identifying ‘at risk’ students and student support

The literature reveals a considerable potential for technology to highlight and support students felt to be ‘at risk’ during transition. It is therefore seen to have the potential to improve retention by being able to identify and pick up students who may be struggling and provide an opportunity for timely information and interventions (Jones et al 2009, Bailey 2009, University of Birmingham). Anagnostopoulou and Parmar (2008) use e-learning data such as monitoring the use of the VLE to track usage and participation to try to improve retention, suggesting that ‘at risk’ students can manifest indications of their problems online (although they note that ‘lurkers’ may be active but not participating). They also compare cohorts and withdrawers with ‘persisters’ in an attempt to understand e-learning behaviour and how this may relate to transitional experiences. However, crucially, they stress that data accuracy is important in operating such a monitoring system.

One project even raised technology’s potential use to predict success by not just recording but by rating engagement. The Spiral programme proactively used technology to identify and target at risk students (Laing et al 2005). Their tracking system suggested who was likely to succeed, who needed assistance and who was likely to fail – producing a ‘measure of risk’ for each student which then starts a process of negotiation between student and staff to offer support and solutions.

Such studies suggest that technology can provide an ‘early warning system’ (Fishman and Decandia 2006) and so help programmes to make timely interventions and offer resources. This can start prior to arrival by looking at online participation in discussion boards (Robinson et al 2009) or the results of online self-assessment such as Stepping Stones 2 HE’s ‘About You’ survey – a self-profile questionnaire that highlights those who may be at risk of withdrawing early so pastoral care can be targeted fast and appropriately (Keenan 2006). Technology can also be used at other vulnerable times (Jones et al. 2009) as well as to address problems in ‘real’ time. Texting, for example, allows students to ask questions and get quick responses; it can be used to alert them to issues and thus offer ‘just-in-time’ support or interaction (Dunlap and Lowenthal 2009 and Chan and Lee 2005) at key transitional/danger points. Similarly ‘Student Messenger’ (Harley et al 2007) was seen to be able to reach out and offer timely or instant assistance, tailored and personalised to the ‘at risk’. Salas and Alexander (2008) also note that online, interactive technology can help identify and contact students who may not feel comfortable seeking help themselves. Individual text messages of concern are seen to be effective in tackling drop-outs. Nix et al (2006) sent messages such as “we missed you today” and felt this could help keep students in the system and offer a chance for following issues up with learning support. Horsmanshof (2004) also suggests that the use of SMS can help students feel valued, especially if it has been noticed that they have missed a class. Mobile learning is noted as additionally beneficial in offering proactive interventions (Yousuf 2007) as it aims to be
spontaneous and unstructured and can offer a mixture of WAP, SMS and WWW support for those 'at risk' (Traxler and Riordan 2003).

Other e-activities implemented for teaching and learning practices may also have the additional benefit of being able to help support those who may be struggling. Lawton and Purnell (2009) reported unexpected outcomes of their use of e-portfolios as the early identification of those 'at risk' as well as increasing assignment submission rates (as tasks were assessed). The reflective nature of the ePDP work got students writing about themselves and opened up a dialogue with tutors and this contact enabled the identification of support needs and non-academic issues which could be addressed before it was too late for students to finish their work.

The literature also raises using technology for offering support to all students, not just those deemed to be 'at risk'. For example, the National Student Forum Annual Report (2009) highlighted that personalised support can offer rapid feedback as a benefit of technology enhanced provision and HEFCE (2009) noted that technology can be harnessed to help identify specific learner needs. Raths (2009) reports on some use of facebook-like sites to troubleshoot personal and academic issues such as accommodation problems, homesickness and exam anxiety, after which students were directing to relevant resources. Similarly Yousuf (2007) notes that mobile technology can offer links to other resources, Harrell (2008) suggests offering online mentoring or counselling provision and Lawton and Purnell (2009) suggest the possibility of using student advisors to contribute to the ePDP process to offer an extra layer support for students. Others note the importance of providing cohesive and integrated academic support services that support communication, participation, interaction and representation for (all) students, with McCracken (2009) suggesting inclusive access to the university community via a 'high touch/high tech', environment which also focuses on value added and relationship building. Finally, McCarthy et al. (2008) look at the use of text, skype and blog technology at the University of East London, where text tools, which can act like emails, are used for reminders, advertising workshops and where students can book support sessions. Skype is also used for peer to peer communication, for individual support consultations and to support distance learners. It is noted that while this enables access for disabled learners, it also has further potential in the provision of support for all students via technology.

### 11 Staff Involvement

The literature reveals mixed findings about staff using technology and in particular their involvement in social networking or out of class interaction. Some students did not want staff participating, yet others welcomed staff presence (McNeill, forthcoming) and reacted positively to their involvement; they saw this involvement as showing that they cared and allowing them to offer support (Bowers-Campbell 2008). Some staff felt that disclosure on facebook could make students more likely to communicate with them as it made them seem more approachable and less of a 'mysterious wonder'; this was seen to help draw them into the course better and open up the door to better understanding and learning (Sturgeon and Walker 2009).
In this sense Facebook is seen to enrich communication and influence classroom participation. Similarly, Mazzer et al. (2007) considered tutor self-disclosure on Facebook to improve credibility, foster relationships and have some potential impact on motivation, but caution over it potentially being seen as ‘invading’ or violating student space. Others query the ‘friend’ status which is not necessarily reflective of the relationship and causes concern over the erosion of a ‘professional’ relationship (Jones and Jones 2009 and Sturgeon and Walker 2009). The latter also reported staff developing a ‘persona’ to maintain professionalism and found that some students were wary of academics seeing their profile because they were concerned that this might affect their academic outcome; others also note the potential ethical debates about surveillance (Jones and Jones 2009). It also appears from the studies that tutor involvement was acceptable for some activities such as general messages or reminders and for informal communication, but that students were less keen on academic related uses, preferring emails for this. Also apparent is that some staff were not necessarily ready to go into the virtual world, remained hesitant or didn’t see the value of engaging with students in this way.

A common issue across the literature is that there are implications for the role of staff as a result of technological innovations to support the learning experience. The perceived notion of staff becoming facilitators rather than deliverers of education, as guiders rather than givers of knowledge (Minocha 2009, Wang and Fang 2005 and Namwar and Rastagoo 2008) or as e-moderators (Jones and Peachey 2005, Ng 2007 and Slevin 2008) is often raised. JISC (2009a) feel tutors need to recognise the experience and expertise of students and the relationship between students and tutors may need re-negotiating. As well as some reservations over this there appear to be positive views of the reappraisal of the tutor role. Sturgeon and Walker (2009) note that tutors can still generate discussion about academic issues and coursework and Hewitt-Taylor (2003) asserts that the role isn’t diminished – tutors need to be skilled in guiding discussion, challenging views and encouraging participation. Cann (2008) adds that facilitating student generated knowledge and learning means tutors become learning advisers rather than mere ‘production supervisors’. However, Slevin (2008) cautions against seeing tutors as e-moderators who facilitate and encourage participation in an environment where there are no experts. He instead suggests that participants are faced with many experts and therefore queries who would have authority. Similarly, Anderson (2007) raises the issue of hierarchy and authenticity in self-produced knowledge and the potential difficulties in shared authorship and obtaining online consensus.

Other studies also raise potential workload problems for staff; that technology may create new opportunities for communication but also create new demands for teachers (Williams 2009), leading to time management issues of setting up and maintaining initiatives and fears over the time taken to trace and monitor students, give support and make referrals (Minocha 2009 and Ng 2007 and Jones and Jones 2009). However, Hughes’ (2007) study found that although there was a perception that this would be time consuming, this was not actually the case as the technology allowed for the whole group to be contacted at once to answer questions and only a small number were found to be ‘at risk’ and in need of greater support. In addition,
various evaluations note that time can be saved via technology in terms of contacting large numbers or via e-assessment and feedback.

Investigation into the effect of technology in transition has frequently flagged up the need for staff buy in (Stone 2009a). Badge et al (2005) argue that staff need to consider e-learning, not e-teaching, and use systems for more than electronic repositories – making use of the pedagogic advantages not just treating them as a quick way to disseminate information/material. However, such use of technology inevitably has implications for staff development and training – both in having the confidence to use technology (Wilson and Butterfield (2009) and, just as importantly, how to use it appropriately (Anagnostopoulou and Parmar 2009), including relating it to learning outcomes (Howe et al 2009). Steele (2008) notes that some staff may feel out of their comfort zone or that they don’t have the time to be trained, but assert that technology is here to stay and staff must change and adapt. Free online training programmes are suggested, and the QAA (2008) highlight in-depth staff training, formal staff development and e-learning seminar series as examples of good practice. JISC (2008) too suggests that staff need exposure to technologies to see how they can be applied to learning and teaching, and Ferrell et al (2007) propose including technology in the PGCE so staff do not feel they are ‘playing catch-up’. The KASTANET project (Williams 2009), for example, recommends a series of initiatives to support tutors in embedding and sustaining mobile technologies involving time for development and maintenance and dedicated faculty based support and training. In addition to these, the learner perspective could be used to motivate staff. One interesting case study (Fishman and Decandia 2006) considered both students and staff in its approach and incorporated staff success as well as student success into their largely online transition programme by the introduction of a ‘College Coach’ who motivates the participants, keeps them connected and helps to solve problems and explore resources. The feedback from staff revealed that it made them feel valued and empowered, with a greater understanding of the students. Therefore it seems that although there are mixed feelings towards staff use of technology, in order to effectively use it to support the learner experience, staff need to not just be trained and skilled but engaged in its possible value and benefits for transition.

12 Potential problems/concerns

Studies raise but also aim to address some of the perceived problems and concerns associated with the use of new technology.

Access and technical issues

Notions of ‘digital inequalities’ have been raised previously. Here again, some urge not to over-emphasise the convenience of using technology but instead to consider access or inclusion issues or usability and technical problems. JISC (2007) note that concern over the digital divide still exists and authors argue these issues of access need to be addressed; for example, the National Student Forum (2009) recommends free laptop surgeries and Steele (2008) suggests free laptop check-out schemes for
students. Other studies note potential technical problems – administrative, university or student based (McBrien et al. 2005 and Miller 2009). This includes inadequate technical support, reliability (Kukulska-Hulme 2007) or stability of internet connection (Ng 2007). In addition, some students are not engaging with technology; Brett (2008) found from the MeLAS project that not all students have mobile phones or wanted SMS contact and raised the possible need for an ‘opt out’. Miller (2009) notes that not all students use facebook and there are differences in the usage of social networking sites due to culture/ethnicity, language or age. Sturgeon and Walker (2009) also note differences according to ethnicity and the difficulty of selecting which social network site to use, or whether to use multiple sites, especially with a large international student intake. Kukulska-Hulme (2007) warns against methods that are reliant on inaccessible mobile technology for learners with disabilities and also raises usability issues that can prevent some learners from engaging, since the use of technology is dependent on human factors (psychological, ergonomic, organisational and social). As raised before, devices are not designed for education/teaching (Jones and Peachey 2005) and students will obtain them for their own specific purposes and may never use all the features –even if they are able to, they must also want to use them. Therefore HEIs need to consider not just access and technical support, but also the desire to participate.

**Low participation/engagement with technological initiatives**

A number of initiatives encountered engagement problems, particularly if activities were not compulsory or subject related (Mitchell et al n.d., Jones and Peachey 2005 and Edirisingha et al. 2007). For example projects reported low sign up to voluntary online games (Piatt 2009 and Whitton 2009) or, as Pugh (n.d.) notes, students may join facebook groups but don’t actually contribute to them. However, Slevin (2008) argues that if there are a lot of ‘lurkers’, institutions may need to re-design what they are using to improve engagement, rather than abandoning such initiatives.

Various research offers reasons that may explain low participation and it is widely recognised that time pressures are common. Sharpe and Benfield (2005) found some students were concerned about having enough time to devote to online activities and have to change their study habits if an activity requires more than just a ‘one off’ contribution in a face to face session. Others suggest students don’t join a facebook group because they don’t want to take time to contribute to yet another online discussion, or didn’t want to use their personal technology for educational purposes (Sturgeon and Walker 2009 and Edirisingha et al 2007), which draws on previous discussion about students not being able or willing to use technology in an educational way.

As well as lack of time, low engagement could be due to perceived lack of need (Akbulut and Kiyici 2007). Students often adopt ‘just enough’ and ‘just in time’ approaches or last minute preparation (Goold et al. 2006) and their use of technology is needs based (Mitchell et al n.d. and Edirisingha et al 2007). Students are also reluctant to use technology if they don’t think they need to or it isn’t interesting or relevant. Currant (2007) found that students don’t use online study support as they don’t think they need it, don’t know what they need or are unaware of what is on
offer, and so advocates better promotion and marketing of services/resources and linking with academics to close gaps in referrals.

There is some discussion regarding whether activities should be made compulsory and if so, how to still make them fun rather than negative and how to market or target them to students. Clear recommendations coming from existing studies suggest that institutions need to state explicitly why the technology is being used (Anagnostopoulou and Parmar 2008) and should attempt to engage students from the start (Anagnostopoulou and Parmar 2009, University of Birmingham). Projects can’t just hope for a match, they need to be explicit in the purpose and expectations of online work and detail the skills students will develop (Sharpe and Benfield 2005). Howe et al (2009) also note the need for early engagement with tutors to secure commitment and stress the value of rewarding and recognising student involvement (such as offering small gifts, vouchers or even MP3 players).

Many note that technology should not just be used for the sake of it, nor should it be assumed that technology is preferable (Currant et al 2008) or that it will motivate students to engage without prompting (Whitton 2009). Rismark et al (2007) note that technology will be incorporated or rejected depending on students’ established study habits. Students therefore need to be aware of the point and benefit of participation (Robinson et al 2009), with the use of technology being meaningful – otherwise they won’t be motivated. Some propose the need to be relevant to discipline (for example the Virtual Site at Leeds Met is contextualised to Construction and Built Environment courses – Dickenson et al. 2008) and/or with subject and assessment related tasks (Kukulska-Hulme 2007, Miller 2009, Dunlap and Lowenthal 2009 and Whitton 2009). Students should be able to see the value of investing in the initiatives and be able to recognise the advantages of engagement in terms of learning outcomes (SPLASH at the University of Sussex). For example, the KASTANET project concluded that students were positive and responsive to the use of SMS and podcasts when they understood the real benefit in terms of supporting their studies and when tutors had given a clear message about its value (Williams 2009). Therefore students need more training, support and awareness of the educational benefits and importance of digital literacies, with activities being authentic and not just a ‘bolt on’ (Beetham et al. 2008 and Blair 2005). Universities are cautioned against the ‘seduction’ of technology and urged not to lose sight of its purpose for enhancing learning environments (and transitions) and to create real relationships (Raths 2009). It is argued that initiatives should not centre on the technology itself, which is just a tool in the process, nor should technology overshadow the student view or experience (Jones et al 2009, Munro 2006).

**Privacy, safety and concerns over public postings**

Possible concerns, negatives or hazards of online technology such as SNS are identified as security, privacy and safety issues and Oliver (2008) states that communities are not always positive or conducive to learning. Studies noted downsides of safety and students’ fear of public access to their information and concerns over saying/doing anything too controversial (Xie and Sharma 2005 and Akbulut and Kiyici 2007). Sharpe and Benfield (2005) found students have worries
over exposing views publicly and Miller (2009) noted that some were reluctant to contribute to online environments as they fear the reaction of others. Another issue concerns how students can develop or experience negative identities and may face the possibility of disciplinary action over potentially defamatory postings. Interestingly, in addition, Eberhardt (2007) discusses online prejudice where students assume they won’t like someone by their interests or profile, so refuse to interact with certain students and therefore miss out on skills/personal development.

Studies suggest that HEIs need to have clear and up to date policies and procedures on the use of technology such as SNS and PLEs, and also that students need to understand their public nature, be aware of the potential dangers and be helped to develop ethical and appropriate use of technology (Ferrell et al. 2009, Smailes et al 2008, Bowers-Campbell 2008 and JISC 2007). Some noted their institutions’ duty of care to students. One possible way to address some of these issues is by promoting a university created SNS – for example, ning, used for Develop Me! at the University of Bradford, which was also felt to contextualise social networking to the university environment and community. Similarly BuddySpace at the Open University is facebook-like but linked to the educational environment Open Learn (Little et al 2008).

**Technology as disruptive and disengaging**

A number of projects note cons as well as pros in the use of technology – which can be viewed as potentially disruptive as well as enabling, with students reporting that social networking or SMS can act as a distraction to studies (Madge et al 2009) or even create an impersonal atmosphere if the focus is on the technology and not each other (Munro 2006). Heaton-Shrestha et al (2009) report less positive views of VLEs from staff, who fear they could empower students to make the wrong choices and could result in disengagement and a decrease in social interaction with students. Heath (2008) also notes the reluctance of some students to introduce themselves in class may be due to increasing use of social networking sites and web 2.0 but suggests using e-portfolios during induction for improving social integration. Selwyn (2009) highlights how social networking sites are subject to debate with some celebrating their potential to (re)engage learners and others fearing that they disrupt engagement with ‘traditional’ learning. He argues that use should be seen as part of the ‘identity politics’ of being a student and where conflicts between university work, staff, academic conventions and expectations can be worked through in their private space. However, McBrien et al. (2009) raised the issue of potential over-stimulation and confusion that might arise from all the types of communication such as audio, typed chat, emoticons etc; they note that some students miss face-to-face and non-verbal communication and that lack of these reduced the educational experience for some students and meant they felt disconnected. In addition, Eberhardt (2007) notes, echoing previous inclusivity issues discussed above, that those who don’t engage in SNS may be separated from others or the university experience, so again the potential to alienate is a concern.

**Encouraging dependency, spoon feeding and superficial learning**
A few studies discuss the worry of technology use leading to ‘spoon feeding’ students and limited or superficial learning. JISC (2007) note that there are concerns that the demand for rapid, bite-sized communication or cutting and pasting information without thinking about it can reduce reflective and evaluative skills or understanding of the broader picture. Blair (2005) suggests that the use of online resources for students who found transition to university difficult might instigate more problems by creating a culture of dependency and surface learning. Others found that students use only a limited range of online articles and general websites, plus concerns are noted of a clash over academic and internet knowledge cultures – with possible issues of plagiarism and originality (Beetham et al. 2008). But perhaps, again, clear explanations and expectations of use and purpose could help overcome some of these issues and some suggest technology such as weblogs can even help counter plagiarism via peer pressure as students develop respect for each other’s work (Namwar and Rastgoo 2008).

Others fear the possible growing of dependency of students on reminders and updates delivered by web 2.0 and the expectation of 24/7 contact and support (Munro 2006), which could therefore result in less independence in learning (Jones et al. 2009) not more. However, Horstmanshof (2004) suggests introducing negotiated rules, including no constant availability, and reports that students did not see initiatives as ‘mothering’ them. Hewitt-Taylor (2003) too argues the need to establish ground rules and make availability and usage clear so as not to overburden staff or make students feel neglected.

13 Impact and outcomes on transition/retention

Some of the resources claim little is known on the impact of technology and therefore projects have been embarked upon to ascertain this. However, evaluation or consideration of impact often centres on the project itself whereby the initiative is seen as a useful experience with some positive feedback and outcomes reported, but with little written on wider effects or longer term student experience or retention. Some work makes suggestions or theoretical links to these, often using them as a justification for the projects, but do not conclude or demonstrate any evidence of the impact on these, only the potential to – that it “should make a substantial impact” (Wingate 2007).

Some evaluations are based (at least initially) on access to resources, such as MAPS and pre-arrival VLE use in the Faculty of Biological Sciences at the University of Leeds (Pugh and Taylor n.d. and Pugh n.d.) – the latter which found encouraging results with peak access being in the first two weeks of September. Morris et al (2009) note online resources were accessed by a large number of students and reflected that pre-arrival use of the VLE was successful in providing students with information – which reduced the number of enquiries from the previous academic year. Burgess (2009) too evaluated the use of WebCT for improving engagement and critical thinking by looking at levels of participation and task completion but also tried to assess students’ depth of understanding by monitoring online conversations,
concluding there was anecdotal evidence that it had an effect and again that the technology was seen as having potential.

There are, however, some interesting findings in terms of improved student achievement or skills. The SUCCESS@Seneca programme, which included online support and information prior to the first semester, reported that generally those who participated were more successful and had higher grades than those who did not (Fishman and Decandia 2006). McConatha et al (2008) found that those who used mobile technology to prepare for exams had higher scores than those who had only used traditional methods such as hand outs and review lectures. In addition, Sturgeon and Walker (2009) concluded there was an indirect connection between staff use of facebook and academic performance, with relationship building offering more open communication, an improved learning environment and more engagement in the classroom. Curran and Forbes (2007) compared players and non-players of online games and found the former to be more confident and likely to interact. Plus Hughes (2007) discusses module retention involving a third year module blending e-learning and classroom teaching, which included tutor monitoring and support for the ‘at risk’. It was suggested that this increased motivation to hand in coursework on time and Board of Examiner data was used to measure retention – finding higher submission rates compared with those students on the face to face only module. Cohen and Bobrowicz (2009) also looked at achievement, and compared before and after results for their Assessment Survival Kit, reporting a rise in the grades of participants. However, overall they felt findings were inconclusive and only that the tool may help develop self-regulated/independent learning.

Some studies then, highlight that the evaluation of the use of technology is often problematic and it may be difficult to learn “the truth” (Traxler and Riordan 2003, p.55). The SEEL project at the University of Greenwich reviewed retention and progression statistics in an attempt to measure the impact of technology and Devine (2008) concluded that if it had an impact, then it was a small impact. She noted comparisons were not conclusive as the influence of other initiatives or interventions could not be discounted, such as action taken from the National Student Survey or alterations to courses or student intake. It may not therefore be possible to demonstrate a causal link (Jones et al, 2009) to improved transition and some say the role of technology should not be overplayed or privileged (Madge et al 2009) as there are too many other factors/variables at play that cannot be isolated (Hills 2006). However, others stress that they are not looking for a causal link to retention (Robinson et al. 2009), but rather how the use of technology may have a positive effect on areas of transition such as socialisation or identifying those that may be at risk and in need of closer support when they begin the programme or during their studies. So there is often an implied connection to retention – with Minocha (2009) suggesting that it could be influenced by the ability to pick up and support struggling students as early interventions are seen to help decrease withdrawals, although no quantitative evidence was offered for this.

Many pre-arrival programmes discussed previously are developed from research and evidence-based findings on the causes of student drop-out in the early stages. Robinson et al (2007) note that the University of Salford’s pre-arrival package was
based on their own research into students’ concerns before starting university such as dislike of inconsistent information received, being passed around with queries and wanting information early. So it was felt that by addressing these there would be a positive impact on transition and retention and they even aimed to evaluate the project’s success by achieving a higher retention target. Again, Heaton-Shrestha et al (2009) explore the VLE in terms of factors known to play a role in students’ decision to withdraw – such as the importance of peer interaction and social engagement/support, with ICT seen as playing a key role in enhancing communication. Similarly, Round (in Pugh n.d.) suggests online pre-arrival activities that provide the opportunity to be part of a community help orientation which ultimately helps retention.

Much of the impact of projects can be found in their perceived benefits to the transitional process. Minocha’s (2009) comprehensive study of the use of social software reviewed various case studies to conclude that benefits of technology included: better understanding of students’ needs, socialisation, collaborative learning and development of a community (both within and outside the course environment), engaging students in ‘fun’ activities, overcoming isolation, early feedback and interventions and developing skills for independent learning. Therefore, positive benefits often appear to relate to the theories, issues and factors underpinning transition, with technology being seen as able to play a role in the process. Jones et al’s (2009) evaluation of using SMS to support the first year environment found no direct measures of success on transition but contended that using SMS between tutors and students to offer personalised communication and to stimulate out-of-class activity “aligns well with strategies for supporting a successful transition” (p.212) and plays a small but important role. Any disadvantages were thought to be outweighed by the advantages; if the vulnerable benefitted and others were not adversely affected then it was worthwhile (although no information was offered about whether this was the case). In addition, Daly and Thomas (2008) concluded that the PASSPORT to Higher Education programme at Lancaster University (which used technology in pre-entry, student and staff experimentation with learning styles and for social life and pastoral support) had an effect on attrition as it addressed these key retention issues and retention rates had since exceeded the average for the university. They concluded that the programme was not the cause of students’ success but was a contributing factor to it.

Some of the most useful examples of evaluation are schemes derived from Student Transition and Retention (STAR) projects such as the ‘Bridging the Gap’ module at the University of Sunderland. Hills (2006), reports that the project was evaluated by an external consultant and has been rolled out across the institution and is adaptable for other HEIs. The project offers statistics on how the students thought the module had impacted on the way they felt about coming to university and although Hills concludes that a causal link to retention cannot be stated, it could be said that the initiative was a “creative way of tackling social isolation, poorly formed expectations and lack of knowledge of the Higher Education culture”. Plus it had a positive impact on students’ understanding of university life and on making them feel less anxious about being at university and their course selection. Chalk et al’s (n.d.) Step into Higher Education at the University of Manchester (which also follows STAR and
builds on Sunderland and Bournemouth’s Stepping Stones 2HE) offers a comprehensive evaluation methodology including tracking the usage of individuals and sections on WebCT, content analysis, comparative analysis, focus groups, questionnaires, interaction with student representatives and statistical analysis where retention rates were compared. Again impact was seen as hard to evaluate due to other factors but a significant reduction from 28% to 12% from 05/06 to 06/07 was noted. In addition they found 50% less enquiries to the office which impacted on staff time – both of which reflect some of the suggested ‘tangible benefits’ highlighted by JISC’s review of e-learning in general (2008). This review also offers case studies highlighting examples of benefits such as cost saving and resource efficiency (mainly offered by e-assessment initiatives), recruitment and retention, skills and employability and student achievement – with some evidence of improved marks. They also provide examples of the impact on inclusion through offering support for blind students, those with mobility difficulties or those who have problems engaging in on-campus activity.

Many other projects from this review are ongoing, are still to be evaluated or are undergoing evaluation. Some intend to employ more unusual evaluation methods such as confidence logs in the UsPaCe project at University of Plymouth (McDermott and Witt 2009) and TAG at the University of Central Lancashire is using Google Analytics. However, projects also used student feedback, focus groups and anecdotal evidence for evaluation and the literature highlights both the importance of quantitative and qualitative information (Whittaker 2008, Ferrell et al. 2007) and similarly of quantitative and qualitative benefits (JISC 2008).

14 Student Feedback

A number of studies are utilising student feedback to evaluate and develop projects involving the use of technology. JISC (2007) produced an entire report focusing on the importance of hearing the learner’s voice and offering student feedback on various case studies. Findings showed students value communication and networking opportunities, ease of access to information and choice and control. Through questionnaires, focus groups, student interviews and surveys several projects are also reporting positive feedback in their evaluations relating to themes identified within this review. This is particularly the case regarding students feeling better prepared (University of Lincoln’s ‘Getting Started’ programme) and being ‘part of something’ (Platt 2009). Currant and Keenan (2009) state that students reported how pre-arrival initiatives made them feel more comfortable and confident, less nervous, addressed their queries and concerns, allowed them to meet others and gave the university a friendly face. Fishman and Decandia (2006) noted that students who engaged in the ‘SUCCESS@Seneca’ programme felt it helped their motivation, that they had a more positive attitude, more confidence and a stronger sense of belonging and understanding of college expectations and resources. Chalk et al (n.d.) add that particularly useful aspects of pre-registration resources identified by students were practical information about the city and the course such as reading lists, topics and preparation work to do before coming to university – which had helped with familiarity. Similarly Keenan (2009) reported that feedback from
Stepping Stones 2HE showed improved student confidence, that it was fun and helped early bonding, made students feel part of the university before they arrived, helped their motivation and gave them positive feelings about university life.

There is also evidence of positive feedback for online networking and that students value the opportunity to engage in discussion with peers (Kadirire 2007).

McNeil (forthcoming) reported from student feedback that Facebook for pre-induction was positive in three main areas: preparedness for induction week, helping anxiety levels and for their perception of the course and university. Others reported that students felt Facebook was important to their integration, helping them to find and develop new friendships, keep in touch with those at home and to ask work related questions and share information (Hardy et al. 2009 and Madge et al 2009). Similarly students saw Facebook as an innovative way of socialising and learning (Wilson and Butterfield 2009) and that it had helped them to find friends and was important to their integration (Madge et al 2009). From student surveys Wang and Fang (2005) found that students felt asynchronous chat improved their academic development and that using blogs with their groups increased their confidence in learning and helped develop their social and teamwork skills.

So feedback from students is showing they value technology in social and skills development but also report enhanced engagement (Johnston and Kochanowska 2009). Cohen and Bobrowicz (2009) reported that students found the Assessment Feedback Kit a useful tool useful, especially in terms of time management and understanding how much work was involved. Interestingly they note that 100% of the international students found the resource useful. Jowallah (2008) looked at using online tasks in a first year module to engage students and reported that students felt tasks motivated them, increased their self-esteem and that they became more actively involved in their own learning – increasing their participation. Heaton-Shrestha et al (2009) also show that the VLE helped students to be more actively involved and gave positive feedback about it enhancing their effectiveness – with readily available tips, hints, notes and website links allowing better organisation, tracking of their own learning and an awareness of ‘what’s going on’. The majority also felt they had more control and choice over what, when and where to study. Flexibility is identified in some studies as something students want (Johnston and Kochanowska 2009) as is accessible information, with Howe et al (2009) noting that students valued the VLE as a source of information and liked bite-sized, interactive chunks of material that fitted with their lifestyles. In terms of tutors using technology to monitor engagement, Hughes (2007) reports that it helped students to focus, to see if they were going in the right direction and allowed them to know the tutor was there when they needed them.

However, a number of individual evaluations found mixed feelings and responses from students on the use of technology. For example Xie and Sharma (2005) reported positive experiences of weblogging in terms of helping them to think outside of the classroom and creating community, but others found it difficult and stressful and were uncertain about how to use weblogs and had concerns over privacy issues. Goold et al (2006) also reveal mixed experiences with students reporting positives
and negatives of various technologies – some felt they learnt more through online discussions with peers and staff than from the prescribed texts or from reading alone, but others felt it led to misunderstandings and was harder to communicate than face to face. Johnston and Kochanowska (2009) again show ambiguous responses to interactive learning and computerised coursework – with some students wanting more, and some feeling it was already overused. Sharpe and Benfield’s (2005) review of the literature on the student experience of e-learning focuses on self-identified student impact. They too found inconsistencies in student perceptions and contradictory and complex results that were difficult to predict. Again some students wanted more, some none at all, some found it inspiring, some frustrating, some appreciated work being student led, others wanted more ‘model answers’, some felt online interaction gave them the chance to consider their answers more, others were concerned over the amount of time needed to contribute, some had their fears eased and some felt vulnerable. Importantly they highlight the emotional experience of using technology – the highs and lows – and note that individual differences and reasons are possible factors in the success of technological initiatives. The influence of prior experience and background is important (Xie and Sharma 2005) and can impact upon student feedback as well as practice.

One study gives a useful overview of student perspectives of technology over the transition process. Hardy et al.’s (2009) comprehensive study maps the use and impact of technology over the key stages of transition at the University of Edinburgh, focusing on the student views of technology at each of these and following a group of students throughout the first year. Key findings show positive responses to information being located centrally in “MyEd” and to pre-arrival resources for giving an insight into the university and allowing for personal contacts to be made. Later in the year technology is still seen as useful for information and also for revision (e.g. mind map software) or going over material, asking each other questions and getting confirmation. In Semester 2 students had more awareness of their growth and change in study styles/habits and had learnt how to make technology work for them, such as by using it to keep track of what needed doing. Other interesting results were that students have high expectations and see technology as part of their lives, but that they do not actually expect novel or innovative use of technology at university and do not want it to intrude on personal space. Students arrived with and maintained a positive view of technology in education, many came equipped with skills but some needed help. Interestingly students were adopting the technology that was necessary into their daily lives, which reflects previous discussions on needs based use of technology and the possibility that students may need to be persuaded to use technology for education related purposes.

15 Wider issues to consider

Finally, some wider issues were drawn upon within the literature which, although more broadly relevant to the use of technology in HE in general, may be important to consider in terms of evaluating initiatives or for planning future developments or research into the use of technology to improve the learner experience during transition:
Institutional and strategic approaches

UCISA (2008) found lack of available time and staff skills as key challenges. The National Student Forum report (2009) also notes lack of time and support but also restrictive university policies and practices as possible barriers to technology-enhanced provision – arguing for the need for a strategic approach. QAA (2008) also identified as good practice a strategic approach to the use of VLEs to support blended and flexible learning. Several authors stress the value of considering the use of technology as part of overall teaching, learning and assessment strategies and to support wider aims (e.g. HEFCE 2009) such as widening participation or retention strategies. Similarly, the importance of institutional infrastructure is a common theme – its funding, staffing and technology – the use of which needs to be integrated throughout the institution’s environment with the commitment of key personnel to build an inclusive e-culture (McCracken 2009). Studies suggest that transitional support should not be an ‘add on’, but rather coordinated and integral to and embedded into the learning experience (Whittaker 2008). This applies not just to strategies for transition but also to the use of technology within them, with technology forming part of the overall student transition and experience, again instead of as an ‘add on’ (Oliver 2008).

In relation to this, technology is noted as regularly being used by pockets of enthusiastic or willing staff, with its success often a result of individual enthusiasm and ground up development rather than the organisation striving for excellence (Slevin 2008). JISC (2008) note the use of technology frequently involves individual projects and suggest initiatives are better if driven by the desire to improve learning and teaching and with the institution providing the tools and support. Although studies call for the need for strategic support in institutions they also stress that initiatives can be counter-productive if turned into ‘quotas’ (Ferrell et al. 2009 and JISC 2008). Rather they require embedding of strategies for retention and success (and perhaps transition) into formal quality assurance procedures, such as in the Shock Absorber project at Manchester Metropolitan University. They could also consider polices to integrate institutional and personal technology and address the digital divide (JISC 2007). In addition, Cook and Rushton (2008) suggest the value of undertaking transition audits – to reflect on processes and move towards improved practice.

Consistency

Consistency in the use of technology across the institution is also raised as important, with the literature noting that students can dislike experiencing different (or absent) applications of technology either in different curriculum areas or by different staff. It has also been suggested that inconsistent use of technology through learner journeys could be detrimental (Howe et al 2009). For example, Sharpe et al (2009) found that students wanted more consistency across courses; that they expect services to be robust, accessible, reliable, predictable, high quality and visible; and that they want clear explanations of what technology to use. The National Student Forum report (2009) advocates whole campus provision for technology and a programme for staff and student development in technological skills. Reushle and
Loch (2008) too propose using a consistent approach and tools at university level and JISC (2007) suggests a minimum standard of VLE information. In addition, it is also seen as important to consider joined up approaches for learning, teaching, support and administrative systems (HEFCE 2009) to achieve continuity.

**Usability, design and purpose**

Several studies raise the need to consider and plan usability features (Ferrell et al 2007 and Kukulska-Hulme 2007), such as memory, hardware/software, speed, and the time it takes to learn how to use. In terms of students’ engagement with technology, it cannot be taken for granted that online initiatives will increase engagement and modules/delivery may need to be redesigned to suit technology rather than technology just being inserted into modules. Design is seen as important as interaction doesn’t ‘just happen’ and practitioners need to think about the layout, style and theory of initiatives (Jowallah 2008). Salas and Alexander (2008) also discuss undertaking ‘technology utilization assessments’ to ensure that it will be helpful and easy to use. Yet it is apparent that technology itself is constantly changing with different versions and updates becoming available (Akbulut and Kiyici 2007). Thus institutions need to keep up to date with rapid techno-social change and respond quickly and flexibly to new capabilities and skills (Beetham et al. 2008).

As discussed earlier, technology is often not designed or used for educational purposes so if utilised in student transition its purpose needs to be based on sound principles, research findings and best practice (Edirisingha et al 2007). E-tivities are seen as often being drawn from practical experience or interest, but authors stress that positive arguments for using technology should be required – not just information or facts about what it can do (Slevin 2008) and usage therefore should be needs driven not product driven (Hardy et al. 2009). JISC (2009b) advocate that pedagogy rather than technology should be the guiding factor and a number of authors note there is too much use of technology for its own sake and not for pedagogical advantage (Ni Bheachain 2005).

Students, as noted before, do not necessarily expect innovative use of technology and have mixed views about it; therefore HEIs also need to consider pre-requisite skills and knowledge for students to be able to use and make the most of technology (Ferrell et al. 2007). The National Student Forum recommends promoting technology enhanced approaches and resources to prospective students before they arrive (2009). Hardy et al. (2009) suggest that if universities want to expand their use of technology to more compulsory activities then they will need to work with students’ attitudes in advance – despite the rhetoric of the net generation.

**Data and evaluation issues**

Issues of using data for tracking and how to evaluate various technological initiatives in general are also raised in the literature. Devine (2008) noted that there was no specific way to record or evaluate the use of technology and therefore recommended development of this within institutions in order to make comparisons. Anagnostopoulou and Parmar (2008) also stress the need for accurate data and the
importance of effective administrative systems in bringing together e-learning and retention. Sharpe et al (2006) noted a pressure to implement rather than evaluate in institutions and found poorly defined measures of success. They recommend module evaluations guiding departmental action plans, triangulation, utilising case studies and disseminating evaluation outcomes. However, Slevin (2008) raises the issue of how to evaluate and compare different media and urges sensitivity to distinctive attributes and aspects rather than focusing only on the success stories.

In some of the evaluations the cost effectiveness of technological initiatives has been considered. Reushle and Loch (2008) argue that when assessing value for money it is not necessarily just about participation in an initiative or access to resources. Institutions need to consider the hidden costs of acclimatising and training staff, as well as the benefits such as time saved in answering queries or offering one to one support, the ease of use for students and the potential for retention progression from tracking those struggling. Chan and Lee (2005) argue that podcasts are particularly cost effective, especially for large groups, and technology such as IM (Kadirire 2007 and Little et al. 2008) is beneficial for increasing student numbers and is cheap and easy for students to access. However, Whitton (2009), discussing ARGs, asks at what point they become value for money, how high does engagement have to be to make implementation worthwhile and how success can be measured in terms of benefit, adding that using technology is not necessarily a ‘quick win’. Anderson (2007) even asks if the web 2.0 bubble could burst as institutions invest time and money in untested applications.

Haywood (2009) argues there are tough issues for institutions to consider involving value for money and return on investment; weighing up the glamour of technology verses utility and design; and louder voices verses inclusivity. However, Bailey (2009) asks if institutions are actually investing enough in technology to support retention and motivation and asks where this investment should be targeted – in pre-support, early detection of the ‘at risk’ or in staff investment to offer more personalisation - all questions considered in this review. Ferrell et al (2007) offer a good overview of the potential impact of e-learning in general. The CAMEL project maps the tangible benefits of e-learning using various case studies and notes that technology can: educate a larger and more diverse student body; offer savings in staff time (such as through using e-assessments); improve pass rates; and allow cost savings and resource efficiency. They also highlight some cases of improved retention and add that even if retention is only slightly improved that this can be significant financially.

**Incorporating the student voice/perspective**

The importance of listening to students themselves is repeated regularly – valuing and prioritising their voice and experience when considering new initiatives or approaches (JISC 2007, Xie and Sharma 2005, Howe et al. 2009 and Heaton-Shrestha et al. 2009). Sharpe and Benfield (2005) urge investigating and focusing on students, not practitioners or the perceived pedagogic ‘worth’ of an approach. JISC (2009b) outline the learner perspective as one that would focus on student-led learning outcomes, see learners as creative participants and would include
widespread understanding of learner preferences and needs. Hardy et al (2009) too highlight the need to understand the student viewpoint and make it central to approaches and Howe et al. (2009) suggest introducing methods for the student perspective to be fed into the decision making process. This is seen as the key to the success of initiatives – especially in meeting all learner needs and accommodating increased diversity. In addition, Ferrell et al. (2007) note that the benefit of initiatives could be found in the results of satisfaction surveys, plus if technology is adding to levels of student satisfaction, then this has further implications for managers and policy makers in terms of student evaluations such as the National Student Survey.

**Further research is still needed**

Common throughout much of the literature is the call for further research into the use and impact of technology. A number of studies that were identified during this review, but that were beyond its scope, looked at the different usage of technology in terms of gender, class, etc. This type of research is called for in some of the studies that were incorporated. It is important to investigate who is actually using technology, what is being used, what students expect and find beneficial and what influences their choices and how these change (Dempster et al. 2007). The need for more longitudinal and ethnographic research has also been raised (Sharpe et al. 2006). In terms of impact, Whittaker (2008) argues we need to track and analyse trends in progression and retention, but also consider the role of technology in helping students to realise their potential. Impact may be varied and evaluations should not necessarily focus on the ‘at risk’ but should consider how individual strengths could be recognised and built upon regardless of the student profile. Finally, JISC (2007) suggest that research into student understanding of the use of technology should include multiple modes of learning, cover disempowered groups of learners, explore differences between learners and involve student reflection on their experiences. So it can be suggested that the particular transition needs of different learners/groups need to be examined and the impact of technology on these investigated.
Conclusions

The use of technology to improve the learner experience at points of transition is reflective of wider research that identifies key components of effective transition and approaches being developed to support transition in general. This includes pre-entry support, social and academic integration and skills development, timely information provision, student support and offering students choice and control/empowerment (Whittaker 2008). All of these issues feature in the discussion of the initiatives and studies above, as do additional areas such as preparation for employment, supporting diversity and blended provision, and identifying students who may be in need of assistance. Many of the papers and resources discussed offer examples of practice that address these issues, whether they are directly aimed at influencing the transition experience, or geared towards using technology to enhance teaching and learning in general.

The literature shows where and how technology can be used to support the key features of effective transition over various points/stages. Notable benefits of technology use in transition are often seen to be found in online pre-induction initiatives which can provide an early opportunity to interact, engage and learn and potentially relieve anxiety and reduce information overload. In addition, web 2.0 technology offers the chance to increase social interaction during the early stages of transition, therefore fostering integration, community and a sense of belonging. The projects also show how technology plays a role in academic preparation for university studies, early skills/attributes development and building on these as part of support for ongoing transition. Ensuring students have easy access to information and resources and that motivation and engagement is sustained over time can also be helped by technology with e-learning initiatives fostering flexibility and choice as well as aiming to offer a more personalised and learner controlled experience.

Technology is also considered to be addressing and supporting diversity in terms of widened access, new groups of students and a changing student population, although a number of authors are keen to stress possible skills issues and concerns about the ‘digital divide’.

Common goals in the work reviewed here are: forming student centred strategies and inclusive learning environments and connecting with student uses of technology – to appeal to them and also to value and utilise their skills and experiences. Yet numerous resources caution against generalisation and urge acknowledgement of the breadth of learner skills, preferences and needs. Some stress that technology can potentially hinder inclusive provision and disadvantage the transition experience of certain students if it is assumed that all are part of a technologically sophisticated ‘net generation’, want to use web 2.0 in their university experience and will be engaged and motivated by its use. A key message from the literature, therefore, is not just that it is important to understand increased student diversity, but also to attend to the individual leaner – their experiences, requirements and abilities. Although many discussions or projects focus on ‘today’s’ learners it seems evident that there is not one type of learner and that students can experience many types of
transition (Howe et al 2009). Technology is also seen to play a useful role in offering alternative, transformative and blended approaches to provision – which may appeal to diverse preferences and can be connected to and utilised alongside other practices across the transition process. It can be of particular use in noticing those that might be at risk in their transition and in offering tailored support to all students.

The review also considered staff perceptions and implications for staff practice, development and buy in on the use of technological initiatives. Potential problems and concerns that using technology can involve were covered, such as access issues and low participation, privacy concerns and views that technology can be disruptive, disengaging and encouraging of dependency and superficial learning. However, the literature reveals some interesting, albeit at times limited, findings in terms of the impact of using technology. Both quantitative and qualitative examples of positive impact have been reported and student feedback in particular can highlight the value of technological initiatives on experience during transition. Yet, again, student views can be mixed. Differences in learner experiences and preferences can influence feedback and perceived benefit; it cannot be assumed that technology will automatically be seen as positive by students or will improve their experience. In light of this, wider issues for institutions to consider have also been noted, including practical matters involving strategic/institutional stances; consistency in provision and approach; and usability and design matters. Importantly the student voice and perspective is urged as a key consideration for all approaches, especially if striving to meet diverse learner needs.

Slevin (2008) offers a useful summary in that technology opens up new opportunities for interaction but can also create new uncertainties, with often patchy and sometimes contradictory implications and different ideas about its use. This is reflected in the mixed and contradictory views of both students and staff on the use of technology noted in the review. Logan Rich et al (2009) suggest that the challenge for educators is to determine how best to utilize new technology and engage students, noting that choosing amongst pedagogies and technology can be a confusing maze and that poor understanding can result in technology being seen uncritically as a magic tool or solution. There is no one approach that will appeal to and benefit all learners and it seems no single technology or technological initiative can offer the answer for a seamless and successful transition. The criticism of offering a ‘one size fits all’ model, it could be argued, can be levied at technological as well as more traditional approaches. Yet it is apparent that technology can offer some advantages and impact positively on the learner experience. HEFCE (2009) note that technological interventions can have benefit at different levels: efficiency (improved cost and time effectiveness); enhancement (of existing processes or outcomes); and transformation (positive change to current practices or establishing new ones) and that institutions need to identify where to direct their attention. It seems that these levels could apply to transitional aspects of the student experience too and various schemes and studies included in this review have discussed the possibility of using technology in these ways.

Also apparent is the call for further research. There is a need for more meaningful and consistent data recording and evaluation in a yet to be fully explored field where
much potential is believed to exist. Investigating the impact of technology in transition and its link to student experience/satisfaction or to retention is called for in a number of instances, as is additional investigation into who is using technology; how and why they use it; and what the consequences or implications of digital inequalities are. However, advantages have already been highlighted over many studies and technology clearly has potential in improving experiences of transitions. HEFCE (2009) assert technology can enhance flexibility and choice, improve skills and employability and help in retaining learners. JISC (2008) report that e-learning initiatives are translating into improved satisfaction, retention and achievement and that the key in using e-initiatives is being attuned to students needs (2009a). It could be argued from the research and projects reviewed here that clear justification, purpose and aims for the use of technology, including the student perspective and voice, need to be considered. If this happens then explanations, expectations and meaningful outcomes can be offered both to staff and more importantly to the wide diversity of students in order to improve individual learner experiences of points of transition.

### KEY PROJECTS/STUDIES

This section provides more detailed information on some of the key projects that have been included in the review. These are grouped into initiatives, case studies and projects; journal articles; and guides or overviews. Focus is on activities which have been undertaken, or are ongoing, that are utilizing or discussing technology more directly to support transitions, rather than resources that consider e-learning, new technology and its implications in general. Details provided give a brief overview of the initiative or study and any evaluations, conclusions and impacts of the work or its potential use. General summaries are offered and, where available, annotated abstracts, findings and conclusions have been included. Full details of the references can be found in the section below.

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<th>Author/Institution</th>
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<tr>
<td>Bournemouth University</td>
<td>Stepping Stones 2 HE</td>
<td>Web-based resource available from offer of a place. Introduces students to university culture and aims to build confidence, reflection, responsibility and commitment to the course and acknowledge students prior learning experiences.</td>
<td>Feedback from students shows benefit in terms of feeling part of the university, being prepared and feeling positive. A number of other UK HEIs have adopted this approach to their own context. (See also Currant, B. and Keenan, C.)</td>
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<td>Relieves anxiety, information overload, promotes collaboration, introduces PDP and study skills and involves subject related activities. Includes self-profiling questionnaire 'About You' which allows understanding of student expectations and the early identification of those students who may be at risk so support can be targeted quickly.</td>
<td>2009; Keenan, C. 2006, 2009a&amp;b)</td>
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<td>Brett, P. (2008)</td>
<td>Mobiles Enhancing Learning and Support</td>
<td>Project investigating the implementation of SMS-based technology to support teaching and learning activities at the University of Wolverhampton. Three types of messages were used: one way communication (staff to learner), formative assessment with feedback and a collaborative learning discursive tool.</td>
<td>Concludes that universities and students will benefit from institutional use of communication via SMS. Suggests that its use specifically for learning and teaching shows great promise but further investigation is needed.</td>
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<td>Chalk et al. n.d.</td>
<td>Step Into Higher Education</td>
<td>Case study based on STAR guidelines regarding the use of the VLE for Foundation year students. Resources include information on the course, city, study and expectations; a self-profiling questionnaire, introduction to study skills and a virtual</td>
<td>Evaluation included content, comparative and statistical analysis, questionnaires and focus groups. Concluded evaluation was difficult due to programme modifications but reported a significant reduction</td>
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<td>(University of Manchester)</td>
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<tr>
<td>Curran, K. and Forbes, K. (2007)</td>
<td>Addressing the Student Dropout Rate in Engineering through Induction of Students with Interactive Gaming</td>
<td>Case study of an interactive student induction game, designed to offer new students with information to help them settle into university more effectively.</td>
<td>Reflections on the prototype noted that those students who played the game were more confident and it was hoped would be more proactive and likely to interact with the correct staff for support sooner.</td>
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<tr>
<td>Hardy, J. et al. (2009)</td>
<td>ICT &amp; the Student First Year Experience – A Report from the LEaD Project</td>
<td>Project mapping the use and impact of technology over transition and the first year at University of Edinburgh. Followed a group of students and looked at the key stages and the student views of technology at each of these. Used mixed methods including diaries, surveys, focus groups and case studies of particular courses and focused on ‘critical moments’ over transition – early, mid and late semester 1 and 2. Asks what their expectations are of the use of technology, how they change and adapt to e-learning, what are the factors that influence their choices and how much are they using non-institutional online technology in their learning.</td>
<td>Key findings show positive responses to information being located centrally and to pre-arrival resources for giving an insight into university and allowing for personal contacts to be made. Later in the year technology is still seen as useful for information and also for revision. In Semester 2 students had more awareness of their growth and change in study styles/habits and had learnt how to make technology work for them. Other interesting results were that students have high expectations and technology is part of their lives, but that they do not actually expect</td>
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<tr>
<td>Howe, R. et al. (2009)</td>
<td>E-Learning for Learners (E4L)</td>
<td>Project aiming to investigate learners’ opinions and experiences of e-learning, including through their transitional periods. Objectives were to ascertain if learners were effective e-communicators, to investigate opinions and experiences as they progress and to produce case studies and guidance for the wider sector about student expectations for web 2.0 and best practice.</td>
<td>Findings showed there was no one type of learner, although there were general trends. That students experience many types of transitions, they value bite sized chunks of material, but trust tutor recommendations on where to use technology in their course. Students do not understand the term e-learning but see technology in general as able to aid many ways of learning.</td>
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Kingston College | Kingston Relationship Application Data on Learner Engagement (KRADLE) | The project aims to develop and evaluate tools, mechanisms and procedures which advance the integration of ICT to deepen and sustain the relationship with learners at all stages in the student life cycle. | Project ongoing - yet to be evaluated. Provides a useful student lifecycle highlighting the use of technology at various stages throughout - including pre-enrolment, induction, learning, assessments, support, enquiry, progression and exit. |

Kingston College | Kingston Uplift | Project aims to | Project ongoing - |
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<td>for Business Education (KUBE)</td>
<td>develop and evaluate models of good practice in using technology to transform teaching, learning and assessment. Includes supporting learners through the use of online resources and enriching learning and teaching through the use of mobile technology.</td>
<td>yet to be evaluated. Provides useful overview of various technology based interventions being used to support students in areas such as diagnostic testing, attendance, classroom practice, group work and learner support.</td>
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<tr>
<td>Stone, L. 2009 (Leicester College)</td>
<td>Higher Education Lifelong Learning Opportunities (HELLO)</td>
<td>Project involving HE in FE. Includes access to a virtual common room to collaborate and communicate with peers and tutors. Aims to learn from previous projects in that virtual space cannot be separated from the curriculum, that not all learners are technically competent, anywhere anytime learning needs to be go hand in hand with anywhere anytime support and staff development and buy-in is needed.</td>
<td>Ongoing project - yet to be evaluated</td>
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<tr>
<td>Manchester Metropolitan University</td>
<td>The Shock Absorber Project</td>
<td>Project focused on the first assignment and runs from pre-entry into early weeks and aims to engage students, increase confidence, knowledge and skills to alleviate the 'shock' of first starting and the first assessment. Holistic approach that includes peer interaction, PDP, early</td>
<td>Ongoing - project yet to be evaluated</td>
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<tr>
<td>Whitton, N. 2009 (Manchester Metropolitan University)</td>
<td>Alternate Reality Games for Orientation, Socialisation and Induction (ARGOSI)</td>
<td>Project aimed to provide a novel and engaging alternative to student induction through the use of an ARG which combines a series of collaborative challenges with an unfolding storyline. It aimed to provide a mechanism for new students to make friends, orientate themselves to the city and learn basic literary skills.</td>
<td>Concludes the project has met many of its objectives but notes that students may not be motivated by games without prompting. Considers issues of design, timing, cost effectiveness and accessibility and uptake and how to market such initiatives to students.</td>
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<tr>
<td>McDermott, A. and Witt, N. (2009)</td>
<td>UsPaCe Project</td>
<td>Project led by the University of Plymouth to support foundation degree students whilst undertaking work-based learning. Included integrating social bookmarking and networking and personalised web browsing pages for PDP, group work and resource sharing.</td>
<td>Found that levels of technology skills and confidence were different than expected and that conceptions of digital natives did not seem to apply. Involving learners in the design process from an early stage was found to be effective in helping learners understand the proposed use of the tools as was embedding UsPaCe within the module and induction.</td>
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<tr>
<td>University of Bradford</td>
<td>Develop Me! and SaPRA</td>
<td>Online resources that aim to help students feel more confident about being at University; identify, articulate and develop skills, reflect and</td>
<td>See Currant, B and Keenan, C (2009).</td>
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<tr>
<td>University of Brighton</td>
<td>GO! Get Organised - an Evaluation of Pre-Arrival Online Induction Materials that Support Business School Students to Prepare for HE Study</td>
<td>Interactive resource including: quizzes that get students to think about their transition, video clips made by existing students sharing their personal experiences, lecturers talking on film about what types of learning and teaching to expect, a social network to meet other new students and learning activity ‘Brand Me’ for engagement and PDP.</td>
<td>Ongoing - project yet to be evaluated</td>
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<tr>
<td>University of Central Lancashire</td>
<td>The Alternative Guide to UCLan (TAG)</td>
<td>Project aims to produce a website that will support students in their move into higher education, identifying at an early stage issues students need to be aware of from application to first assessment. It aims to be an alternative guide providing and sharing information of current students, giving them information not usually included in marketing materials. The information and activities available aim</td>
<td>Ongoing project - yet to be evaluated</td>
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<tr>
<td>University of Central Lancashire</td>
<td>Online Community-based Support for Student Transitions into HE</td>
<td>Project looking at the ways in which technology can help transition to higher education from FE and for those returning as mature students. It seeks to explore the way in which an online social community can be used to support that adaptation and aims to provide a scaffold of tailored e-resources embedded within an academic online social networking framework (built around the open-source platform Elgg, which offers a flexible group/community structure, blogs, messaging, and wiki capability).</td>
<td>Project ongoing</td>
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<tr>
<td>University of Leeds (various)</td>
<td>Online approaches to pre-arrival for students</td>
<td>Bulletin covering a number of online resources for new students being developed at the university to help orientation, introduce students to other course members and aid general induction. Includes: FBS pre-arrival VLE organisation, 'Countdown to</td>
<td>No evaluations of the projects are offered but the bulletin concludes that pre-arrival activities and being part of a community help orientation and ultimately retention.</td>
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<td>Pugh, S. and Taylor, S. (n.d.)</td>
<td>Online pre-arrival for new students in MAPS</td>
<td>VLE resource to help orientation before arrival including course material, staff and student videos and a facebook group.</td>
<td>Ongoing project - students to be surveyed. Reflections note positive but not universal uptake (although the facebook group improved activity).</td>
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<tr>
<td>Marples, D.</td>
<td>Using the VLE for weekly student progress assessment</td>
<td>Discusses a VLE that provides administrative information, worksheets, materials, teaching links and online quizzes for students to assess their own progress and obtain feedback on their standard of work.</td>
<td>No evaluation but reflections note that it was well received by students although there were concerns over reduced social contact and adjusting to new learning styles.</td>
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<tr>
<td>Bell, C. (2009)</td>
<td>Using the VLE to support induction, transition and the identification of learning needs</td>
<td>Project includes welcome videos and tour, glossary of terms, FAQs, discussion boards with current students, online skills assessment, gateways to resources linked to induction, module and course information.</td>
<td>Ongoing - project yet to be evaluated.</td>
</tr>
<tr>
<td>Morris, N. P. et al. (2009)</td>
<td>Using the VLE to prepare students for university life</td>
<td>Project explores the use of a VLE in providing online resources prior to arrival from when students were offered a place. Involved level 2 student peer mentors making posts and interacting via an</td>
<td>Reflections on the project were that it was successful in providing programme information and that the number of student enquiries reduced. It noted large levels of</td>
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<tr>
<td>University of Leeds</td>
<td>ESSL Study</td>
<td>Books were offered as prizes for the best posts.</td>
<td>access but that this was mainly to access information and to read discussions rather than make posts.</td>
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<td></td>
<td>Skills Pages</td>
<td>Website hosted on the VLE with audio/video advice from students and staff, essay examples with audio feedback, discipline specific information and quizzes. Aims to: provide brief explanations of aspects central to university study and examples relevant to students’ needs; to contextualise feedback and marking criteria; to raise awareness of skills and engage students in applying these; and to provide a platform for sharing student experience and giving advice.</td>
<td>Ongoing project - questionnaire, focus groups and VLE access data to be used. Noted positive informal feedback so far.</td>
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<tr>
<td>University of Leeds</td>
<td>Leeds for Life</td>
<td>Site aims to help students consider the future beyond university. It includes: preparing for personal tutor sessions; recognising and describing skills and attributes obtained through the course and identifying what employers are looking for; finding opportunities outside the course to develop and add to skills; and creating a 'Live CV'.</td>
<td>Project ongoing.</td>
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<td>University of</td>
<td>Student Evaluations</td>
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<tr>
<td>Glasgow</td>
<td>Network</td>
<td>peer-support initiative which provides prospective, new and current students with information and advice from current students in higher years (e-mentors). Uses email, blogs, webchats and SNS. Offered at key points during the application and induction process and also over the first term, it aims to strengthen the sense of community and aid the student experience and retention.</td>
<td>via online surveys/questionnaires - number accessing has increased each year.</td>
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<tr>
<td>Devine, A. 2008 (University of Greenwich)</td>
<td>Student Experience of E-Learning Laboratory (SEEL) Project</td>
<td>The project aims to measure the impact of technology on teaching, learning, student support and on student progression and retention.</td>
<td>Noted that comparisons between courses and the usage of technology were difficult and inconclusive as there was no consistent recording of data and other factors could not be ruled out for influence. Concluded that impact had been small.</td>
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<tr>
<td>Daly, R. and Thomas, H. 2008 (University of Lancaster)</td>
<td>Using E-Learning as part of Pre-Entry activities to increase retention - a case study</td>
<td>Discusses the PASSPORT into Higher Education programme, a month long programme using a web-based chatroom, facebook, texting and a VLE. Aims to address the key retention issues of: pre-entry, teaching styles, learning styles and preferences and Suggested effect on retention due to addressing key retention factors; concludes technology is not the cause of success but is a player in it.</td>
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<tr>
<td>University of Leicester</td>
<td>Informal Mobile Podcasting and Learning Adaptation for Transition (IMPALA4T)</td>
<td>Project investigates using student centred podcasts to enhance transition and offers a model for capturing informal knowledge and experience ('hot knowledge') for learners about to start and for those well into the first year.</td>
<td>Project ongoing.</td>
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<tr>
<td>Watling, S. 2009 (University of Lincoln)</td>
<td>Getting Started</td>
<td>Site containing an online forum moderated by staff and students, generic and course specific information plus the ‘Snapshot: introduction to academic practice’ website. Aims to address lack of preparation and take the pressure off induction week.</td>
<td>Online questionnaire revealed students reported feeling 'better prepared' and valued the opportunity to contact the university and other prospective students prior to induction.</td>
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<tr>
<td>University of Reading</td>
<td>Student Stories - Real Students, Real Voices, Real Journeys</td>
<td>Web resource to support personal reflection and development before, during and beyond university. Consists of short audio clips of current students/recent graduates reflecting upon their experience, thoughts, conflicts and changing feelings. Each clip covers a core aspect of student life e.g. transition from school to university, self-confidence, social networks, and engagement with subject/discipline.</td>
<td>Ongoing project - yet to be evaluated.</td>
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<td>Hills, J. 2006 (University of Sunderland)</td>
<td>Bridging the Gap: Easing Students' Transition into Higher Education</td>
<td>E-learning progression/bridging module using the VLE prior to registration. Includes a mix of generic and programme specific information to give a taste of the upcoming environment, welcome videos from staff and students, tasks and assignments, skills development and support, discussion boards, quizzes, videos of teaching scenarios, student tips and guides and links to internal support services. Aims to aid both academic and social aspects of transition and reinforce commitment and allow early identification of problems.</td>
<td>Developed from a pilot module, evaluated using online questionnaires which showed positive student feedback. Expanded across the institution and the framework and materials have been disseminated nationally.</td>
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<tr>
<td>University of Sussex</td>
<td>SPLASH</td>
<td>Project aiming to create student personal homepages and personalised interaction with the institution, and to allow staff to use and explore the use of web 2.0 technology in their teaching.</td>
<td>Benefits of the approach are perceived to be: an improvement in the student learning experience by creating new ways for classmates to communicate with one another; an opportunity to harness the growing preference of students to communicate via online social networking and blogging sites and the creation of a personalised profile page.</td>
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<td>Williams, A. (2009)</td>
<td>Kingston access to science teaching across new and emerging technologies (KASTANET)</td>
<td>Project focuses on the introduction of mobile services (principally SMS and podcasting) to support learners on a large access programme that provides a progression route.</td>
<td>Found that students were generally proficient users of mobile technology, were positive about its use especially if a clear message was given about its value. However, technology could be disruptive as well as enabling and technical issues and support for tutors needed consideration.</td>
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<tr>
<td>Wilson, J. and Butterfield, R. (2009)</td>
<td>Supporting Transition into Higher Education: Comparing Level 3 and Level 4 Vocational Students’ Experiences of Technology Enhanced Learning</td>
<td>Project aims to identify ways in which technology enhanced learning might facilitate transition from FE into further studies or employment.</td>
<td>Through comparative analysis of FE and HE students, themes and questions have been identified and it is suggested these need attention in order to improve the transition to HE.</td>
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<td><strong>Journal Articles</strong></td>
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<tr>
<td>Bowers-Campbell, J. (2008)</td>
<td>Cyber &quot;Pokes&quot;: Motivational Antidote for Developmental College Readers</td>
<td>Paper looks at the use of facebook in helping to improve low self-efficacy and self regulated learning by increasing contact with tutors and students.</td>
<td>Notes from other studies that facebook can build confidence as it shows tutors care about them and can enable peer support. Also notes fears over access to information and public nature of postings but that it allows engagement and meaningful connections with students.</td>
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<tr>
<td>Currant, B. and Keenan, C. (2009)</td>
<td>Evaluating Systematic Transition into Higher Education</td>
<td>Overview of the effectiveness of online transition materials available prior to arrival at Bournemouth University and the University of Bradford.</td>
<td>Preliminary findings show that students need and value early initiatives to support engagement with the university; that it gave the institution a friendly face, made it approachable and that students valued knowing that someone cared. Noted that commitment from individual staff and the institution was needed and believe such transition modules develop confidence and provide solid foundations for academic and social integration.</td>
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<tr>
<td>Hall, R. 2009 (De Monfort University)</td>
<td>Connecting Transitions and Independent Learning: an Evaluation of read-write web approaches (CoTIL)</td>
<td>Project evaluating read/write technologies - podcasts, discussion forums, blogs etc. Aimed to address academic and social transitions and included a peer mentoring case study pilot.</td>
<td>Interviews and focus groups revealed students had found transition less scary and the mentoring was seen as able to offer 'just in time' support. Conclusions were that the technology fused the formal and informal and helped personalise experiences.</td>
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<tr>
<td>Dunlap, J.C. and Lowenthal, P.R. (2009)</td>
<td>Tweeting the Night Away: Using Twitter to Enhance Social Presence</td>
<td>Considered Twitter usage in online courses and how it can be useful for providing 'just in time' support and interaction, allowing students to make</td>
<td>Recommend making Twitter's use relevant and notes potential benefit beyond online programmes.</td>
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<td>Eberhardt, D. M. (2007)</td>
<td>Facing up to Facebook</td>
<td>Considers how SNS are being used by students and therefore that institutions need to learn to deal with their impact.</td>
<td>Suggests SNS can be used by students to make friends, build a sense of connection, community and belonging and can help maintain connections with friends at home, therefore reducing anxiety. Also highlights some possible problems with negative identities and students pre-judging each other.</td>
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<tr>
<td>Ellinson, N. et al (2007)</td>
<td>The Benefits of Using Facebook &quot;Friends:&quot; Social Capital and College Students’ Use of Online Social Network Sites</td>
<td>Looks at the relationship between facebook and forming and maintaining social capital; how students can keep connections with old friends as well as making new ones and use facebook to develop commitment to a community.</td>
<td>Suggests facebook can help maintain and support relationships which could impact on well being and low self-esteem.</td>
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<tr>
<td>Heaton-Shrestha, C. et al (2009)</td>
<td>Student Retention in Higher Education: What Role for Virtual Learning Environments?</td>
<td>Explores aspects of the student experience seen as likely to be influenced by the use of VLEs through interviews with students and staff at Kingston University.</td>
<td>Found that some assumptions about VLEs in aiding communication and providing flexibility were not supported. However, that retention is likely to be aided by the ways they can enhance confidence and provide a sense of control and</td>
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<tr>
<td>Jones et al. (2009)</td>
<td>How can mobile SMS Communication support and enhance a first year undergraduate learning environment?</td>
<td>Case study investigating how the academic and personal development of first years can be enhanced with SMS communication. Aimed to harness skills and cultures of contemporary students and motivate participation.</td>
<td>Student surveys, focus groups and tutors’ journal used to show impact. Concluded that the advantages outweighed the disadvantages and that the space between students and tutors was narrowed; that students valued texts and that they got their attention more; and the tutor noticed increased engagement and attendance. Claims no causal link or direct measures of success as many factors at work, but that SMS played a small but key role in driving the learning process forward.</td>
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<td>Laing et al. (2005)</td>
<td>Managing the transition into higher education: An on-line Spiral Induction Programme</td>
<td>Programme runs for the first 6 weeks of term and includes general information, regulations, procedures etc as well as skills sessions and various online activities to help students take responsibility for their own learning. Records of engagement with these allows for the real time analysis of participation.</td>
<td>Allowed staff to formulate appropriate interventions before performance was affected and enabled more targeted and personalised support which was seen as more satisfactory than a 'one size fits all', reactive model of induction.</td>
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<tr>
<td>Madge et al. (2009)</td>
<td>Facebook, social integration and informal learning at university: ‘It is more for socialising and talking to friends about work than for actually doing work’</td>
<td>Those 'at risk' and allowed predictive feedback with a rating scale and measure of risk for each student. This then becomes the start of negotiated support with the student.</td>
<td>Online surveys showed that students joined the site specifically to make friends as well as keeping in touch with those from home and concludes that facebook is part of the 'social glue' that helps students to settle in, but that it is only one aspect and students thought facebook was most important for social reasons not teaching purposes.</td>
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<tr>
<td>Piatt, K (2009)</td>
<td>Case Study: Using alternate reality games to support first year induction with ELGG</td>
<td>Explores how pre-registration engagement with a university facebook network influences post-registration social networks.</td>
<td>Suggested that the format can provide an interesting alternative and also offered students something to feel part of and a break from their formal course. It was found that the game format did not appeal to all students but was very effective for those that liked it.</td>
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<tr>
<td>Robinson et al. (2009)</td>
<td>Supporting socialisation in the transition to university: A</td>
<td>Describes a pilot project investigating the use of alternate reality games/treasure hunt formats to provide an alternative to existing mechanisms for introducing new students to university information and services.</td>
<td>Statistical and content analysis revealed that some key features of on-</td>
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<td>Fishman, F. and Decandia, L. (2006)</td>
<td>SUCCESS @Senca: Facilitating Student and Staff Success</td>
<td>Project that aims for a multi-faceted approach, which includes utilising technology. Offers support prior to entry, for social activities and for skills development, with staff benefit as well as student benefit being central via a 'College Coach'.</td>
<td>Reported from surveys, questionnaires and feedback sessions that those who participated were more successful and had higher GPAs and a more positive attitude. Also evaluated the impact on staff who felt more valued and understanding of student issues.</td>
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<tr>
<td>Harley, D. et al. (University of Brighton)</td>
<td>Using texting to support students' transition to university</td>
<td>Overview of the 'Student Messenger' application at the university for staff to text students regarding a variety of issues over key points to support social integration into university life.</td>
<td>Noted positive feedback in that students were appreciative of texts and felt it gave them a sense of belonging.</td>
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<td>Wingate, U. (2009)</td>
<td>A framework for Transition:</td>
<td>Paper aims to provide a framework for Concludes that the framework offers a</td>
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<td>Wozniak, H. et al.(2009)</td>
<td>Supporting 'Learning to Learn' in Higher Education.</td>
<td>transition to university that helps students understand what is expected by the university and gradually develops their competence as independent learners. Focuses on learning to learn and includes online materials and self-profiling questionnaires and extends over the first year.</td>
<td>holistic approach to transition and should make a substantial impact on learning. Identifies the need for staff buy in and also notes that it is not just non-traditional students that may not be prepared for university - that all need support in learning to learn.</td>
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<tr>
<td>Guides/Overviews</td>
<td>Stepping through the Orientation Looking Glass: A Staged Approach for Postgraduate Students</td>
<td>Outlines 'Getting on Track' - an online programme addressing student needs before, during and after enrolment in three stages: GetReal before enrolment (for diagnostic testing and reflection); GetStarted at enrolment (for familiarisation with WebCT) and GetLearning before the start of formal study (online activities to develop key attributes).</td>
<td>Based on wider research context of transition and the call for greater learner engagement. Staff and student feedback suggested the module addressed the realities starting PG study in an online environment.</td>
</tr>
<tr>
<td>Anagnostopoulou, K. and Parma, D (2008)</td>
<td>Practical Guide: bringing together e-learning and student retention</td>
<td>Resource to provide guidance on using e-learning to support the student experience. Aims to unite e-learning and student retention and provides case studies, practical tips, activities and recommendations to support student progression through the first year. Includes</td>
<td>Concludes that technology may help in easing transition and managing expectations. Recommends linking the physical and virtual environment and the academic and the social; ensuring data accuracy;</td>
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<td>Birmingham City University</td>
<td>Birmingham City University Extended Induction Strategy</td>
<td>Outlines the university's strategy for extended induction (with the first year being seen as from pre-enrolment through to completion and into the next level of study). This includes use of technology in pre-enrolment: facebook groups and online discussion forums that allow students to meet each other; access to FAQs via the internet or podcasts; and also beyond induction via the use of Moodle to support and enhance learning.</td>
<td>Useful overview of transition stages and the possible use of technology within them.</td>
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<tr>
<td>Minocha, S. (2009)</td>
<td>A Study on the Effective Use of Social Software by Further and Higher Education in the UK to support Student Learning and Engagement</td>
<td>Comprehensive study of the use of social software including reviews of various case studies.</td>
<td>Positive impact often appears to relate to the theories, issues and factors underpinning transition, with technology being seen as able to play a role in the process. Concludes that benefits of technology include: better understanding of students' needs, socialisation,</td>
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<td>Nix, J. et al. (2007)</td>
<td>Mobile Learning/SMS (Short Messaging System academic administration kit)</td>
<td>Sets the context for the use of mobile devices - such as for academic administration and information on changes, reminders etc; combating drop-out by sending messages to those 'at risk' and for offering support. Provides practical information on logistics, service providers, implementation etc.</td>
<td>Notes from other studies that students appreciated texts, response rates improved and that technology was good for contacting whole cohorts/groups as well as individuals.</td>
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<tr>
<td>University of Birmingham</td>
<td>Using technology to support student induction</td>
<td>Overview/guide for how institutions can use technology to support induction which includes: pre-induction, induction learning activities, supporting communication and social engagement, skills development and self-evaluated 'health checks and monitoring participation and attendance.</td>
<td>Based on wider information about induction stages and offers further resources and tools.</td>
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<td><strong>Conference proceedings/papers</strong></td>
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<td>Horsmanshof, L.</td>
<td>Using SMS as a way of promoting connection</td>
<td>Paper on the experiences of a tutor using texting to stay in touch with</td>
<td>Suggested that students were</td>
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<tr>
<td>(2004)</td>
<td>and community for first year students</td>
<td>students and how this has supported and encouraged students to persist.</td>
<td>pleased to be able to communicate</td>
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<td>with their tutor and that it aided</td>
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<td>the building of trust. Noted that</td>
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<td>ground rules were negotiated and</td>
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<td>there was no constant availability</td>
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<td>or ‘mothering’. Concludes that</td>
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<td>students are texting so it makes</td>
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<td>sense to engage with this.</td>
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<tr>
<td>McCarthy, J. et al.</td>
<td>Supporting Students in the 21st Century!</td>
<td>Presentation looking at the use of text, Skype and blogs as part of</td>
<td>Useful overview on how technology</td>
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<td>(2008)</td>
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<td>student support and wellbeing systems at the University of East London.</td>
<td>can assist in booking and delivering</td>
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<td>support consultations and for</td>
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<td>sending reminders and adverts for</td>
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<td>workshops etc. Plus notes further</td>
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<td>potential for its use in student</td>
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<td>support.</td>
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<tr>
<td>Prior, J. and Fitzgibbon,</td>
<td>The Changing Nature of Students Social</td>
<td>This paper describes ‘Early Days’, an online learner support tool</td>
<td>Noted that students continued to</td>
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<tr>
<td>K. (2009)</td>
<td>Engagement with University</td>
<td>designed to encourage students to self assess their orientation and</td>
<td>attach importance to their social</td>
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<td>transition into university.</td>
<td>experience, but more intriguing</td>
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<td>that the results highlighted</td>
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<td>students were not attaining this</td>
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<td>social experience through</td>
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<td>traditionally expected ways.</td>
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<td>Robinson, L. et al</td>
<td>Preparing for University: What do students</td>
<td>Discusses a pre-induction package at the University of Salford that is</td>
<td>Project ongoing - aims to evaluate</td>
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<tr>
<td>(2007)</td>
<td>want</td>
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<td>success by improved retention</td>
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<td>to know?</td>
<td>delivered by blackboard and includes welcome podcasts, FAQs, specific programme information, pre-course reading materials, maps and a helpline. Developed from known student concerns prior to university as identified by focus groups - such as finance, academic work, accommodation and making friends and to respond to their suggestions in terms of communication methods, contact and timing.</td>
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<tr>
<td>Smailes, J. et al. (2008)</td>
<td>Virtual Mentor: an innovation in student support?</td>
<td>Discusses the possibility of using virtual peer mentors as face to face mentoring had limited success at Northumbria University. Describes three models of offering this: via the VLE as already used by students (but lacked excitement and was more of a repository); SNS as it has popular appeal (but noted potential for misuse); and PLEs which could break down barriers and don't feel as if students' social environment has been intruded upon.</td>
<td>Exploration ongoing to establish which has the greatest potential for supporting students.</td>
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</tbody>
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Compiled by the University of Bradford

In collaboration with the Evaluation of Learners' Experiences of e-learning Special Interest Group (ELESIG) http://elesig.ning.com/

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